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### Which is the Best?

Go to any place we will, where a number of men are collected for the purpose of discussing political matters, or questions, and it seems almost incredible what a difference of opinion exists and is expressed. We notice this as frequently in agricultural and horticultural conventions and gatherings as at other meetings. One asks which is the best method of cultivating corn, potatoes, or other crops of the farm, the best kind or variety of seed; kind of plant, grass, stock, cow, horse or pig, implement, team, etc., etc.; and to ask such a question brings out a mass of contradictory opinion, one saying this; another that; each rehearsing the merits of his peculiar preference, so that it often becomes really disheartening to the novice who seeks information, with the hope of profiting by it. Look through our agricultural papers, read the reports of farmers' institutes, etc., and we find abundance of opinion, but scarcely of coinciding evidence in regard to most of the questions which come up for discussion and solution. A farmers' convention spends hours discussing same matter under consideration, and at the end the men pass the question, each having the same opinion as before, only a little deeper convinced that he is right. One asks for information and obtains a mass of conflicting statements of what has been heard, or may have been done under widely differing circumstances, and which are therefore perfectly uncertain and useless, as specific evidence; the same happens where one writes his favorite paper propounding to it some important question, and receives vague or conflicting answers, which are often bewildering if not really tantalizing. Facts are scarce among the mass of farmers, from the fact that so few take the pains to definitely fix the preliminaries of any observations, the attendant circumstances of, or accurately count, measure or weigh, the results. Ask a farmer for some fact or interesting occurrence in his experience, such as how he made his premium crop or butter, and he can rarely tell you more than the general items that enter into the solution; he has preserved no special record, or even preserved important specific items in his mind; cannot tell the exact area of land given the crop, how much it cost in seed, manure, labor, etc., etc.; and whether it was profitable or not; or how much, or what feed he fed his cows to make his premium butter, how much milk was set to make a pound of butter, or tell with certainty anything about it. There are good and sufficient reasons why we should not expect unanimity, even in the little matter of the best variety of wheat or the best breed for a dairy cow. In so extended a country as any one paper extends over, with such varying soil and climate, such differing tastes and capability of our people, there can be no one thing that is best under all circumstances for any use, even in a single state or county; but there are conditions and circumstances which are typical of a large number of cases, in which the similarity of requirements are such as to bring them all within a certain rule, and yet, for want of exact knowledge, there is no precise information to guide an inquirer in regard to anything.

W. H. WHITE.  
Worcester Co., Mass.

### Plowing.

Messrs. Editors American Farmer:

The enclosed paper on plowing was read at a meeting of the Haymarket Agricultural Club, held in Alexandria, Virginia. The same was written ten years ago, and its writer after ten years' more experience is willing to endorse the views therein expressed, and you are welcome to publish same if you think worth while. The subscriber of this letter is the author.

W. L. HEUSER.  
Prince William Co., Va.

We plow the land for the purpose of giving access to "air, warmth and humidity." These three agents are necessary for chemical action on the soil; they alone can decompose the inorganic matters; they alone can give us, by their action, warmth and the gases, so essential to the plant, nitrogen and carbonic acid gas. Liebig first remarked that the fertility of a soil depended on the quantity of ready plant food derived from the mineral resources. But these are not in a state agreeable to the plant, but must be formed so by our agents. The longer, the more intensively the farmer can bring these agents to bear on the soil, the more he will gain. As plowing is the first of farm labors to help our agents work, and as the different soils are acted upon in a different way, by "air, warmth and humidity," therefore we should plow the different soils in a different way, always trying to help nature as much as we can. We should, first, never plow a soil while it is wet or while it will clog. Second, we should plow as early as possible, of course only when not too wet. Third, plow narrow furrows. Fourth, plow (if no manure, sod, or quick-grass is to be plowed in) to the full depth, taking a uniform width of furrow all through. As to never plowing while wet, I have only to remind all practical farmers, that the soil does not crumble, that the draught of the horses is much greater, that they will tread down the soil, that by the greater specific weight the furrows will finally settle after a rain, leaving no points of attack, save those of surface, for the atmospheric agents to act upon, hindering them in doing the work which nature has assigned to them. Organic acids will abound; these will endanger the prospects of our crop, while giving headway to many weeds. As to plowing early, it is a matter of fact that the longer our agents can work the more mineral substances will be dissolved, the more the soil will be enabled to retain humidity, carbonic acid gas, and nitrogen. Every day lost in not plowing lands when in condition is a loss to the farmer. Therefore, plow your stubble, your grass lands, your lands that have been soiled and manured, as early as possible, never forgetting that great axiom, "Plow not while the land is wet." As to plowing the narrow furrows, I will only say that in doing so we give a larger surface of attack to our agents of help—helping nature itself, we force the evaporation of all stagnant, putrid and unhealthy water and gases, bringing the soil into its normal state in a quicker time than

we can by presenting half the surface to our great help. Nevertheless, this question is seldom thought of: How often do not plows take premiums that take the broadest furrows, and do the most work in a given time? Let us consider how plowing soils should be done, classifying them in two groups: Light soils (soils sandy, humus soils, chalk and gravelly) and heavy loamy, and clayish soils; both groups presenting themselves in a different way to our intruding agents, air, warmth, and humidity. The light sandy soils are known not to retain the humidity or absorb the gases with the same affinity as the heavy soils; they must, therefore, be treated in a different way. We should try to augment the volume of surface soil by plowing these lands deeper; then the gases and humidity will be retained in larger quantities, acting on the mineral substances, which are not so abundant in these soils; they will crumble easy, their organic matter will be thoroughly decomposed. Although the humus soils do retain the humidity and gases, yet they contain many organic acids, which, by a large contact with the atmosphere are quickly decomposed, again rendering assistance in dissolving the mineral substances. The chalk and pebble lands present themselves very similar to the sandy soils. This first group should, therefore, be plowed from eight to twelve inches; for root crops yet deeper. Our loamy and clayish soils naturally and generally contain a great deal of plant food, but of no use if not transformed into a state in which it is soluble and can be absorbed by the plant. This can only be done by our agents. The more clay the soil contains, the more avaricious it is to give its riches to us. In fact, these soils are of lazy disposition, (just the reverse of the sandy soils). They must be forced to succumb, and we are bound to help nature as much as we can. The furrows, therefore, should be narrow, so that the soil will crumble and is stirred to its full depth; it will not settle as fast after a light rain; being porous, the air will penetrate everywhere, acting as a dissolving agent; the gases and humidity will be retained. Our first furrow should be very thorough after a crop on such lands, the breadth not being over four or six inches; for cereals, from five to eight inches deep; for root crops, from eight to twelve. Lands plowed in this way will harrow much better, will pulverize and mix well; the surface soil, with its organic matters, will act as a valuable ferment on the rest and lower portions of our soil not so accessible to our agents. But not only should we also plow in a different way for different crops, and according to time, whether we have manured or not, etc. The cereals do not need as deep plowing as the leguminous plants, tubers, and strongly-rooted plants.

The following is the order, in depth changing somewhat deeply, according to soil and climate: Cereals, oats, wheat, barley, rye, and corn. Of the other group, lucerne, tobacco, cabbage, swedes, potatoes, rape, beans, peas, clover, vetch, linseed. If we plow in fall we should plow deeper, the water will

flow and drain off more rapidly, the soil will sooner become dry and warm in spring. In plowing in animal manure, we should only plow from three to five inches, as the manure should be decomposed as fast as possible, returning to the farmer the capital—that is, the manure—as fast as possible. Nevertheless, it must be plowed in so deep that no ammonia is lost. The more clayish the soil, the nearer we may bring it to the surface. The plowing of grass land stubble, containing quack grass, should only be shallow at first, after a harrowing we should plow to full depth. Stubble lands should be plowed in such a way that the stubble be turned and covered well; the organic matters will act as ferment. If we have made up our minds to plow deeper and cultivate thoroughly, we should commence gradually, increasing the depth from one-half to one inch every year. We should, if possible, plow in fall, and apply manure, mixing it thoroughly with the soil brought to the surface. To turn up two to four inches of raw soil all at once, thinking this is rational, is nearly always wrong, and has given so many false ideas about deep culture. The fresh soil contains many acids, extracts of humus often, ferruginous matters always, and all of which are detrimental to the plant in large quantities, and only losing these properties after exposure to the atmospheric agents, and the surer the longer these matters are exposed. A different thing it is with subsoiling; here we turn no soil to the surface, but the gain is not near as great. There are cases where both ways of deep culture would be a sad mistake. A sandy soil having, at a depth of six or eight inches, a subsoil, consisting of a stratum of clay or marl of a few inches thickness, under which sand again occurs, should never be plowed in such a way as to turn up this stratum. This stratum will keep the water from running through too fast by capillary attraction; the soil will be kept moist for a much longer time than if this stratum is turned up. Therefore, let us not run the plow into the ground till the beam tracks the ground, but let us first examine the subsoil and formation, always remembering that the good results of deep plowing being so apparent we will not keep behind, but will plow deeper gradually, and according to the views just mentioned. We may then be sure to become hearty supporters of deep culture, and will bear no advocate of shallow plowing.

### Fertilizers.

Messrs. Editors American Farmer:

In considering the agricultural value of fertilizers or rather of any particular fertilizer, it is very important to bear in mind the fact that all manufactured fertilizers have two distinct values; first the intrinsic value as a renovator of the soil and a producer of more profitable crops, and its commercial value, which means the market value of the separate ingredients that are embraced in the compound. There is no longer any secret in producing a good fertilizer, and in many instances manufacturers



of first-class reputation publish formulas for the express purpose of enabling farmers to compound their own fertilizers, and many practical men buy the ingredients they judge best and have them compounded through the machinery of the manufacturers. Each separate ingredient has a market value, and the compound represents so much actual cash, just as if you were to go into a grocery store and mix together an egg costing two cents, a pound of flour costing four cents, a bottle of yeast powder costing five cents, and so on until you completed your compound, which would represent a commercial value in proportion to the number and amount and value of the ingredients used. It is exactly so with every fertilizer that is offered to the farmer. Each one has a positive commercial value, and the value of each ingredient is based upon the demand made upon that ingredient by the manufacturers who are willing to pay so much for it, because they realize its intrinsic value as an element of their fertilizers. Four different concerns will manufacture say 1,000 tons each of fertilizer upon formulas which in the very nature of things cannot essentially differ if they are to produce profitable results. The price of the article, or percentage of profit above the cost, is governed by the competition in the line of trade, for if one manufacturer undertakes to rate his profits too high he will be undersold by the others. Therefore the price is adjusted at about the ordinary rate of profit in trade, and hence a fair price is fixed on the articles that are offered for sale. In this connection it is very unfortunate but still a fact that a fair price for a good article is always considered by the public as high, because articles apparently the same, but worthless, are offered so much lower, and I think that it is through this unfortunate tendency to judge by appearances instead of reason and reflection that causes farmers to lose through the purchase of fertilizers more than from every other source of loss together, for it is proverbial that the most fraudulent and worthless compounds will be bought greedily by the farmers if they are offered at a dollar or two below the price of the standard articles. I think the farmer is safe in buying the standard compound of any responsible manufacturer at a price that may seem to be high, but he will most certainly be cheated and disappointed if he buys a low priced compound of anyone. The manufacturer knows as a general thing, better what you require than you do yourself, and he knows better than anyone else what it costs to manufacture it, hence the price is a good criterion of intrinsic value.

RUDOLPH WATKINS.  
Montgomery Co., Md.

#### Peach Culture.

Messrs. Editors American Farmer:

During about forty years, I have annually contributed more or less to the AMERICAN FARMER, especially after the late Charles B. Calvert conferred upon me the distinction as the first chemist of the State Agricultural Society.

The live subjects of each year are generally indicated by the letters which the most intelligent farmers write, asking advice.

As the peach is the subject of recent letters, and many in the lower part of this peninsula are now planting, while the bulk of the peach trees in this vicinity are being uprooted, a brief result of my experience with a hundred acres of trees may be appreciated.

I have planted several orchards, but have never been compelled to uproot one, though my successor, on the same land, has not been so fortunate as to the longevity of his orchards, and I am thus more than ever convinced that my system of culture is not only the best, but the most economical, especially if all peach growers would confine this cul-

tivation to ten acres, and thus escape the ruinous game so extensively played of late years. Whether the bonanza system of farming will ultimately make farming a mere factory system remains to be determined, but it must be admitted that capitalists farm the farmers now, even as to tomatoes.

The recent prizes as to crops of corn demonstrate two facts: first, that the proportion of rain determines the prize, in spite of equal or better cultivation; second, that such cultivation is less economical than the rude system. Precisely so must it ever be as to peach culture, if farmers vie as to the bulk of their crop—and while they do so, my successor is wise in departing from my system of peach culture, as the above demonstrations as to the possibilities in relation to corn, do not change "the 16 bushels average" as to the state or county either.

After all others in this vicinity were discouraged, and all the immense orchards were uprooted, I demonstrated peach trees may survive the parasites which usually destroy the trees, after the first fruiting. Moreover, that the late frosts were not necessarily destructive to the fruit; and at a meeting of the largest peach growers on this peninsula I was requested to give them the peculiarities of my cultivation, as the average price, during the whole season, at which I sold was about double that of another large shipper at this wharf, and my orchard had repeatedly stood alone as productive. At that time I was disposed to attribute my success, during the failure of nearly all my neighbors, to the fact that tide water surrounded my orchard two or three times a day, and the mud in its absence, contained more than seventy-five per cent of water, which must elevate the temperature should it freeze in the spring; as freezing is a warming process, especially when the relative surface is sufficient, "A tub of water in a room will thus prevent flowers from the injury which they would otherwise receive from frost." Moreover, the exercise of their vital forces protects them precisely as it protects animals from freezing, and this, as in the animal, can be regulated by food. The three most important factors, as to success, are: first, protection from the late frosts in this climate; second, the protection against parasites; third, judicious use of manure. If with reference to this peninsula, parasites should precede climate in importance; they are both vegetable and animal, but the vegetable have the precedence. I have succeeded in raising one good watermelon on a bed which during the previous year produced several dozen, remarkable for their excellence, but it is admitted that a second crop of peach trees must succumb to these pests. My trees not only excelled in producing good crops when universal failure occurred on account of frost, but they outlived other orchards on the contiguous farms by many years; consequently, as these parasites ultimately determine whether the orchard shall be uprooted, and the proportion of defective trees is the indication, my mode of treatment has been abundantly demonstrated the most successful since my successor has uprooted the trees on contiguous fields that were not thus cultivated, all of which have been planted since on both sides of my orchard, which embraced about one hundred acres.

In proportion to the vitality of the tree, so is its chance in not only resisting the frost, but also the mischief resulting from parasites that is manifested by premature fruit and yellows. The microscope demonstrates that the yellows in the peach, and the blight in the pear, are produced by the same mycelium (or spawn of fungi.) The flowers and even the sets are aborted in proportion as a tree continues to grow while fruiting, thus it is demonstrated that all the vital force is being used when fruit is being formed and the consequence of the exhaustion of the vital force resulting from the first crop

is an attack of the yellow is in the peach. A rich garden soil here produces peach trees which invariably succumb after the first crop, and this has been the result during many years without a single exception; but if these trees were transplanted to a poor soil, which would not produce more than twenty bushels of corn, they would live as others have in this vicinity for thirty or forty years, fruiting last year as usual.

If transplanted as above before fruiting, and not manured until after their first crop of fruit is formed, their vitality is so husbanded that that they are as much fortified against the yellows, etc., as they were before fruiting. Moreover, the systematic and annual application of manure thereafter, in the manner I propose, insures the tree against the influence of temperature which drops the fruit from their orchards, protects it from yellows, and also the peach moth or animal parasite, which usually infests the trees with worms that are almost as fatal as the yellows.

DAVID STEWART, M. D.  
Port Penn, Delaware. January 2, 1884.

#### (Sorghum in France.

Sorghum has never really taken in France; it was in 1851 that the French Consul at Shanghai sent a number of the plants for experiment. It was introduced with too many flourishes of trumpets. However, it was from the industrial, not the fodder point of view, that its culture was advocated. It was then brought into competition with maize and beet. Sorghum requires rather more care, and is cultivated as maize. The soil must not be poor, nor made rich; the climate have at least a mean temperature of sixty-nine degrees for 150 days. Associated with these conditions, must be a fair amount of humidity or irrigation, for sorghum is a tropical plant. The plant grows from six to eleven feet high, in a tuft of eight to ten stems, of which two or three bear the seed. Dr. Sicard has discovered that the saccharine substance disappears from the top of the plant, during the maturation of the grain, while it continues to accumulate in the stem. The experiments of Biot and Soubeiran confirm that, on removing the ears of maize before their maturity, this did not increase the secretion of juice in the stem more than two per cent. The same remarks apply to sorghum. Bear in mind, the maturation of the plant must not be confounded with its natural desiccation, a process quite distinct, and taking place at a different epoch. In France, the yield of sorghum is about twenty-five tons per acre, giving twenty-five per cent of its weight of juice, which represents about 19 cwt. of crystallizable sugar. But this corresponds to the yield of beet sugar, and the latter can be worked more easily, and above all, more surely. For forage, tilled like maize, fifty tons per acre have been reaped. The plant must be cut before the stems harden, and the knots get woody. It is chaffed and mixed with bran. Some suggest to dry it like hay. Its great competitor, however, is maize.

Paris.

#### Corn Against Tobacco

Dr. Thomas Maddox, of Washington county, Md., says: "The foreign demand for American meat is large and decidedly on the increase. If a bushel of corn will add ten pounds to the weight of a hog, and if a bushel of cooked corn meal will add fifteen pounds to the weight of a hog, pork at \$5 makes corn worth \$5 per cwt. to the farmer, and proportionately more if pork is higher. The cultivation of corn in our State would increase the fertility and the value of our lands. Our climate and seasons suit corn. In ten months after planting, corn may be sold in pork. The returns are quick, the crops reasonably sure, the opportunity to improve the land very decided. Corn, compared with tobacco, has every advantage, and the welfare and prosperity of the State would be much increased by cultivating corn in the place of tobacco."

#### Taking a Retrospect.

It has been tritely said by some one, that if farmers would sometimes tell of their failures, as well as their successes, the reading public would be less liable to be led astray by the enthusiastic ebullitions of certain writers, who rush into print with half proven theories which never get any further than the paper they are printed upon. What the reading farmer wants is facts, however homely they may be expressed, and it is encouraging to note that farmers, as a class, are gradually seeking more and more after information which will throw light upon the science of agriculture. We say science, because farming is no longer looked upon as a drudgery, to which a person is doomed to toil if he is found fit for nothing else. Science has raised agriculture to the top of the professions, where she originally and rightly belongs. Thanks to agricultural literature and the efforts and achievements of the once despised "book farmers," she has been enabled to recover her lost place; lost because of grinding oppression and ignorance. Nearly all the advance and improvements agriculture has witnessed, has been achieved through science rightly applied by these same "book farmers." True, many such have failed disastrously, but those same failures have been turned to good account by others who followed in their wake. The failures have generally resulted from over-reaching the mark, especially when they were not supplied with sufficient capital to bear them through. Mistakes and failures are not confined, however, to the class named, but are more frequently the part and lot of the non-progressive and "keep in the old rut" style of farmers. The lot that has fallen to many farmers of the older states, whether chosen voluntarily or not, is that of bringing back to life the land despoiled and exhausted by the old system of continual cropping and starvation of the soil. And here is where science and advanced modes of farming are brought into play, and the superiority of brain and energy is shown over a muddled mixture of stupidity, muscle and ignorance. It used to be taught, we are told, that these were considered the rightful, essential and natural attributes of a farmer. But education is changing all this, and some of the brightest intellects have of late years been brought to the consideration and study of the science of farming. The chemist's laboratory has unlocked the hidden secrets of the soil, its elements and needs, as well as of the crops which spring from it, until the once mysterious processes of nature are becoming familiar to all who are willing to learn from the great school of nature. By the aid of science the farmer is shown the short cut across to success, which was formerly obtained only by the most circuitous, laborious, and self-depriving path of toil.

But I have digressed somewhat from my intended topic. I wish some writers would note some of their failures as well as successes, as by the former we are schooled to our profession. When we think of and remember only our successes, failure is more likely to follow in our wake. Our bitter experiences, "wit bought," as they are, are of no value to us unless we are willing to profit by them. Yet the average farmer will go on year to year knowingly committing the same mistakes in spite of their bitter lessons. It requires all our eternal vigilance, which we are told is the price of success, to prevent us from falling into old mistakes and committing new ones. As this is the time of the year for making good resolutions, it is well from a broad standpoint, to look back and note wherein we might have done better, both financially and spiritually. It was taking this retrospective view which suggested our subject, and leaving the spiritual ones as too numerous to make mention of, we will try and note a few of many made in trucking and fruit growing. Thanks



to a bountiful Providence, however, our successes have more than balanced our failures.

First, I make mention of heaps of manure left to burn, and lose value from want of sufficient turnings and composting. Second, deep planting of small seeds in early spring, necessitating heavy replantings. Third, trying to make just enough manure for one acre do for two, so that a large acreage might be planted, a large crop pitched, but not realized. Fourth, putting off pruning trees and vines until the rush of spring work among the "truck" patches crowded half this work out. Result, long straggling growth of branches and vines, rendering after pruning difficult and intricate. Fifth, failure to cultivate in time, the ground among both old and young peach orchards. Result with the first, immature fruit and impaired vitality of the trees, which have borne heavy crops two years in succession; with the latter, stunted growth of many young trees, which should have been in a flourishing state. Sixth, employing insufficient labor at the right time when crops were in the grass, necessitating double labor and expense in cleaning them out, which in advanced stages of the trouble was rather too complete; the scarcity of labor, however, caused this latter predicament in part. Seventh, paying too high prices for inferior labor, which is becoming more worthless each year. To all these I might add, failure to rush things into market when they were bringing paying prices. Storing turnips in pits when the weather was too warm, and covering too early. Sometime in the future I may be able to chronicle some success or other. Who next? R. A. C.

#### Prize Corn Crops of the Washington County Boys.

*Measrs. Editors American Farmer:*

"M" of Montgomery county, on page 3, issue of January 1st, seems to have been fearful of telling his imaginary friend about the Washington county boys' corn crops, and quotes at twenty barrels or one hundred bushels per acre, just one-half of what was actually raised.

The boys entered into this contest under the stimulus of \$100 in gold to be divided among those raising the largest crops, upon one-fourth acre of ground. Terms, that the crops should be grown with commercial fertilizers, with the addition of barnyard manures if they chose.

Our object in choosing the boys to test this matter was: first, that we would have less prejudice to contend against, than with older persons; second, that they would give it more and better attention; third, the quantity of land was such that it could be handled conveniently in harvesting the crop.

These crops were husked and weighed in the presence of a sworn committee appointed by the Washington County Agricultural and Mechanical Association from the 12th to 15th of October, 1883.

Now for the results: The greatest yields were 203 bushels, and 190.4 bushels shelled corn per acre, calculated upon the basis of 73 lbs. per bushel.

To grow these two crops, 1,600 lbs. of our Giant Corn Producer was used per acre, sown broadcast, but no barnyard manure.

The next two yields were 155.3 bushels and 146.5 bushels, and 1,000 lbs. of the same fertilizer per acre, with some barnyard manure, was used to grow them.

The next two were 140 and 130.3 bushels and 800 lbs. fertilizer per acre, and some manure in addition was used.

The next three were 118, 114 and 111, and the fertilizer ranged from 600 lbs. to 500 lbs. per acre.

Several boys who only used 100 lbs. per acre with all the barnyard manure that they applied in addition, had such poor results compared to the others that they never reported them.

The peculiarities in growing these test crops of 1883, as well as those of 1882, whose yields approximated those of 1883, are as follows:

The corn was planted in drills, single stalk at a place, ranging from 10 inches to 15 inches in row, and rows were from 30 inches to 42 inches apart.

A large variety of corn was planted, usually Chester County Mammoth, or something approximating it. The fertilizer was invariably used broadcast in all cases, while a few used a little in the drill row in addition.

The analytical composition of this fertilizer was as follows: Ammonia, 1 per cent.; phosphoric acid, 12 to 14 per cent.; potash, 3 to 4 per cent.

The cultivation was shallow and there was no interference with surface roots, especially as the last workings were all done with the hoe.

The natural fertility of none of these test plots we believe to have been such as to have produced more than 60 or 70 bushels per acre.

The crops in every case showed a corresponding increase in results obtained in proportion to the amount of food supplied the plants.

When we come to consider that the average corn crop of the State for 1883 is but 23.5 bushels per acre, who cannot appreciate the benefit of higher manuring, better cultivation and increased crops?

Hoping this knowledge may possibly benefit some of our brother farmers,

We are, yours truly,

RUYETT & SCHINDEL.

Washington County, Md.

#### Tomato Pack of 1883.

The *American Grocer* gives the following facts concerning the Tomato Pack of 1883:

"The pack of 1883 is heavily in excess of that of 1882, due to an increase in the number of packers and to an unusually heavy yield in New Jersey and Delaware.

The following table shows the pack for the three years, of cases of two dozen each:

	1883.	1882.	1881.
Maryland	1,450,000	925,000	500,000
New Jersey	612,708	461,848	427,182
Delaware	156,891	110,861	24,580
California	117,000	155,000	90,000
Ohio	112,000	97,820	33,650
Indiana	90,000		
Virginia	75,000		
Kansas	65,500		
New York	59,344	130,907	141,552
Iowa	47,925		
Missouri	34,500		
Massachusetts	95,000	25,000	40,000
Michigan	30,700		
Canada	20,000		
Connecticut	18,000	40,000	40,000
Illinois	14,516		
Pennsylvania	15,000		
	2,943,579	2,180,123	1,635,966

\*All other points.

The above total of 2,943,579 cases represents seventy million, six hundred and forty five thousand, eight hundred and ninety six cans, as the minimum quantity of canned tomatoes in the United States this year. The multiplication of canneries in Kansas, Iowa and Indiana has been surprising. In Harford county, Md., we have a list of 400 packers, of whom 80 per cent. packed tomatoes. During the first week in August, packing commenced in Maryland, and by the 20th of that month was under good headway there, and in New Jersey and Delaware the season opening two or three weeks earlier than in 1882. Maryland packs about one half of the total supply, the bulk of the canning in that state being done in

#### HARFORD COUNTY.

Here the farmer packers have full sway, and to them are consumers indebted for cheap canned tomatoes, of excellent average quality. In the northern portion of the county the pack was larger than 1882, as a large part of the crop was raised upon land not previously devoted to tomato cultivation. In the southern part of Harford the crop was irregular and poor, partially due to its being raised on land that for several years had been allotted to tomato production.

The farmer packer is satisfied if the net result of growing and canning his tomato crop shows that 25 per cent. per bushel has been realized for tomatoes grown. One of the most intelligent packers in the county, who sold his pack at 85¢ cents per dozen tins, claimed that the price was sufficient to return 25 cents per bushel for the tomatoes produced, and that the crop paid better than raising wheat at \$2, and took the place of oats in the regular rotation of crops. The farmer packer makes no account of interest on plant nor wear and tear of packing house or fixtures. Packing is regarded the easiest and most satisfactory of marketing a crop. The regular packer hereafter must face competition from producers not only in Maryland but throughout the West. There is this satisfaction, however, that if prices rule very low it will lead to a much heavier consumption.

#### DELAWARE.

makes a handsome gain over 1882. As in New Jersey some of the packers did not work to their full capacity, "for no reason but a lack of confidence in the business." Dry weather in August caused some factories to suspend work. Some sections of the state escaped frost, it not having been felt as late as October 24.

In California packers paid 90 cents per hundred pounds for raw stock, and in some instances 1 cent per pound—figures very much higher than in 1882.

#### THE MARKET AND PRICES.

In January a demand was started for future delivery. For New Jersey packed \$1.05 was bid and \$1.10 asked. In February contracts were made for 7,000 cases of New York State brand of high reputation at \$1.20@1.25. In the mean time spot sold from \$1.10 to \$1.05 for Harford packed, and \$1.10 to \$1.25 for New York State. In March a firmer tone developed, holders asking 2½¢ more. In April standards could be had at 95¢. During that month a lot, not first class, was sold at auction in Philadelphia, realizing from 86¢90 cents per dozen, reselling from 92¢95¢. Throughout May when the Philadelphia and Harford county stock of 1882 packed was estimated to be from 150,000 to 250,000 cases, prices ranged from 95¢ to a \$1 per dozen. About the middle of May, 13,000 cases were sold for forward delivery at \$1.10 for New York State, and \$1 for New Jersey packed. For Harford county 90 was bid. There was a good supply of early tomatoes in Philadelphia about the 20th of July, shortly after which sales of contract of New Jersey brands were made at \$1, \$1.02½, \$1.05. Not much was done in August owing to the variable reports regarding the crop. Large sales of unlabeled New Jersey were announced in September at \$1. In October there were free offering at lower prices, the wide range of 80¢85 cents for Harford and 1.25 for extra hand packed New York, being established. The failure of the crop in this State caused the closing of unfilled contracts at a heavy loss, in some cases 50 cents per case being paid. Bids of 1.40 for hand packed, solid meats, were refused.

A weak feeling developed in November and ruled until December. Sales of Harford packed were made as low as 77¢ cents, and at an auction sale in Philadelphia prices ranged from 82¢96 cents. At 80 cents there was free buying, and November closed a

steadier market. The demoralization of Harford county packers whose cans notes were maturing and who felt forced to realize, even at a sacrifice, was checked through advances made by a wealthy New York house upon warehouse receipts, and thus a threatened panic was averted. Of No. 2s there were free sales at 70 cents per dozen. In California the market opened at 95¢@1 per dozen, advancing to 1.25, when suddenly it dropped to \$1.09½, near the close of the season.

Never before in recent years have the holdings of the jobbers been as light as at present. Undoubtedly there is an unusually large stock of tomatoes in packers' hands, but there are innumerable parties in all the great centres of trade ready to take hold freely at 80 cents.

At no time has the stock of extra brands been equal to the inquiry, and hence we have seen the anomaly of a range in prices of from 80 cents to \$1.40 per dozen.

Three million cases or seventy-two million cans, means a supply of only one and two-fifths cans per capita per annum, or seven cans per annum, for every family of five persons. With tomatoes retailing at from 8 to 15 cents per can, the consumption could reach three times that quantity, and then each family would only find tomatoes upon its bill of fare once every fortnight.

While many packers have failed to secure a fair return for their work, others have been well paid. Some few have made heavy losses, and will in the future, be less inclined to bet against wet weather, drought and frost.

If general business is good during the first half of 1884, we can see no good reason why the stock of tomatoes should not go into consumption between 85 cents and \$1 per dozen for standards. Any marked advance would be sure to check the demand; and, therefore, low prices must rule if the stock is absorbed prior to the receipt of 1884 packing.

The year closes with Maryland packed obtainable from 75 to 85 cents; New Jersey and Delaware, 90 and 95 cents; fancy brands, \$1.10 and 1.35, delivered on dock in New York.

#### Going West—Farming Paying

*Measrs. Editors American Farmer:*

I notice in your issue of Dec. 15 an article on the New Northwest, which seems to be rather in opposition to the advice of "go West young man." The facts are, the man that goes West, has the energy and push in him brought out, if he has any, and there are some that it takes the blizzard you speak of to bring it out, but if he settles among the first families or tar heels he falls into their ways, irrigates with distilled grain, or cultivates a pedigree. The climate and surroundings do a great deal to develop young men. Another article, Does farming pay? if it don't, will you please say what under heaven does. Every mother's son that cultivates the soil or cares for stock gets well paid either in cash or experience, and one is just as good as the other to the one that gets it. JOHNNY CAKE.

#### Our Wool Production.

About 25 per cent. of the entire production of domestic wool during the census year of 1880 came from the two States, Ohio and California, the former with 25,000,000 pounds, the latter 17,000,000; in 1870 the product of the former was 20,000,000 and the latter 11,000,000 pounds. The next State in order of importance as wool growers in 1880 were Michigan with 13,000,000, New York with 9,000,000, Pennsylvania with 9,000,000, Missouri with 7,000,000, and Wisconsin with 7,000,000. Texas produces nearly as much as the latter State. In 1870 it produced only 1,125,000 pounds. The total product of the Union in 1880 was 153,000,000 pounds, clipped from 35,000,000 sheep.—*Tradesman.*



## Live Stock.

## Short-Horn Steer "Scratch."

We give on this page a well-executed likeness of the steer which attracted so much attention at the November show in Chicago. He was the heaviest yearling ever shown at that show. His weight of 1,640 pounds at 630 days—an average gain of 2.50 pounds per day since birth—is a striking example of the value of good blood, and a credit to the skill of the feeders. In the unusual sharp competition which characterized the show of grade yearlings Scratch came off winner, defeating the Kansas City champion—Tom Clark's wonderful grade Hereford—as well as several newcomers of much more than average strength. In the grand sweepstakes for best yearling in the show, judged by feeders, he was again successful against grades and thoroughbreds of all breeds.

Messrs. Imboden Bros. say: We killed Scratch for our Christmas trade, December 22, 1888. He then weighed 1650 pounds and made 1145 pounds of net beef, or 69.39-100 per cent.

This steer made more pounds of net beef to the hundred gross, with but one exception, (70.10-100 by a Gillett 8-year-old steer), and of as good a quality as any steer we ever killed; and, considering his age, he was by far the grandest bullock both alive and dead we ever handled.

## Calves and Scours.

Messrs. Editors American Farmer:

I have had several inquiries on the above subject from different parties, and as unfortunately, I have mislaid the addresses of some of them, I enclose a copy of a communication, and if you think it worthy of notice, you can publish it. It will save me the trouble of writing several letters, as they all, I expect, take the "FARMER," or ought to.

At some leisure time I will give you the cost of raising wheat, something I do not recollect of having ever seen in any of your issues. [We hope our correspondent will do so.—Eds.]

Yours truly,

F. B. STEINER.

Anne Arundel Co., Md.

STEINER'S WHARF, Dec. 20, 1888.

Mr. A. P. R., Fredericksburg, Va.

Dear Sir:—Your favor of the 23d. inst. is to hand. I have lost but one Jersey calf in my time, and that was a seven month's one, dead when dropped, parturition having been brought on by an accident to the dam. Neither have I ever had a confirmed case of scours, and very seldom any indications. I always attend to them at first appearance. A week's neglect will tend to confirm them and be sure to give trouble. If they occur when cows are on grass, they are taken off

and fed on cut hay and middlings. It is evident that the effect of the grass, through the cow's milk, is too laxative for the tender condition of the calf's stomach. The calf then gets, night and morning, about a pint of browned flour (rye flour is best) boiled in milk not skimmed, which regulates the bowels and gives tone to the stomach, soon noticed in the appearance of the calf. I do not ever give to my calves skimmed milk, preferring to let them have one half the quantity fresh from the cow. Nor do I ever give them sour milk, as it is apt to bring on the scours, and sure to make their stomachs ton aldermic, leaving the rest of the body to resemble the hind quarters of the lean man at the

## Stabling Cattle in Winter.

At a recent meeting of Ohio farmers the subject of stabling cattle in winter was considered, during which valuable experience was related. The sum and substance of the whole subject, as appeared in the experience of these farmers, was about as follows:

It pays to shelter cattle in winter in rigorous climates. Stable and feed all the stock the farm will carry. In a word, keep as much stock as the farm can supply with hay and straw and corn fodder. Make good this bulky feed by the addition of grain, mill feed, hominy meal, oil-cake meal and similar materials, as can be had at best

## Raising Hogs in Illinois.

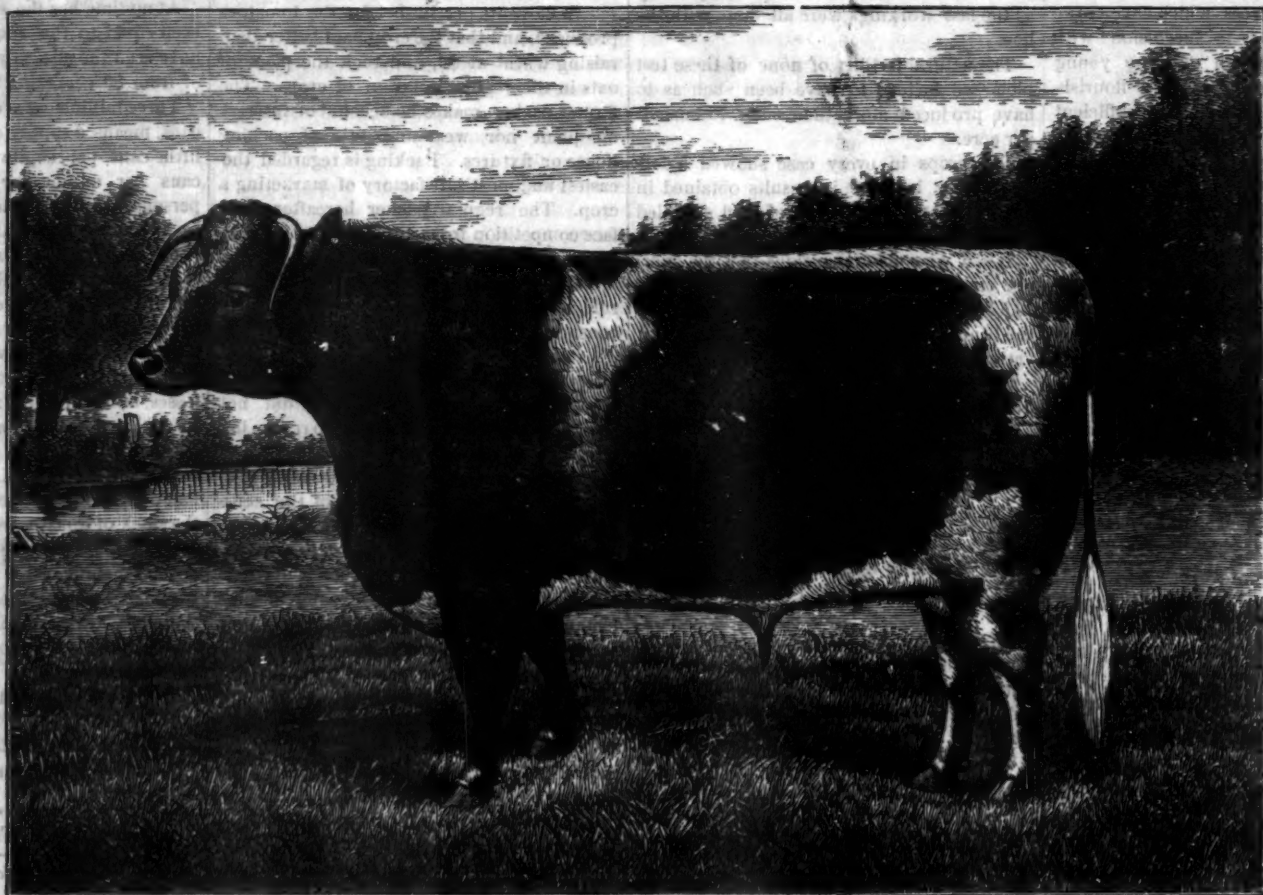
John M. Stahl, in *Home and Farm*, has the following account of the way this is now managed, and its merits:

The pigs littered in the spring, are turned on grass as soon as it is ready for them and they for it. They are kept upon pasture during the summer and in the autumn till drouth or frost cuts it short. For swine pasture, red clover is used almost exclusively, the hogs doing best upon it. A small proportion of timothy is sown with the clover. As clover is pre-eminently nitrogenous it is a good fat former, and hogs upon good, luxuriant clover pasture not only grow rapidly, but keep fat all the while.

The advantages of this system of feeding are not few or unimportant. First may be mentioned its cheapness. The crop requires no cultivation and the cost of the seed and its sowing will not be more than \$1 per acre. The only additional expense is the rental of the ground, which is in the neighborhood of \$4 per acre. Hence the cost of the crop is only \$5 per acre. On the usually fertile prairie land, which is very well adapted to the production of clover, one acre will pasture two hogs, so the cost of their food for four or five months is only \$2.50 each. But in reality it does not cost this much. Some value must be allowed the fertility gained and saved. The hogs leave the manure solid and liquid, distributed over the field; the

clover is not all eaten by any means and what is tramped down enriches the soil, and the clover does not subtract as much fertility from the soil as a cultivated crop and there is no washing and leaching of the soil. Adding these items together we have quite a respectable sum to subtract from the cost of the pasture as before estimated. In fact, some of our best and most reliable farmers assert that fertility gained and saved by cropping the land in clover and grass and pasturing it with swine is worth fully as much as the rent of the land. My personal experience and observation confirms this.

Another advantage fully as important as this, and like it adding to the economy of the new system, is its wholesomeness. While corn is slightly superior to all other crops grown extensively by the American farmers, as a fat former its continual consumption in large quantities proves very unwholesome; it is an oily, strong food, so severely taxing the digestive organs of the hog that none but the most vigorous can successfully withstand the strain for any considerable length of time. It clogs the appetite and produces costiveness and constipation. Unless the monotony of a corn diet is relieved by green vegetable foods or their equivalent it leads to disarrangement of the digestive organs and paves the way to disease. So marked is this that very frequently hogs among which there has been extensive fatality have suddenly recovered from the "cholera" when



THE SEVEN-EIGHTHS SHORT-HORN YEARLING STEER "SCRATCH,"  
Shown at Chicago Fat Stock Show by Imboden Bros., Decatur, Illinois.

Dime Museum. Should the scours appear in the winter, they are probably the result of a cold. Dam and calf are both closely housed with extra warm bedding and same treatment first mentioned. The warm gruel in cold weather has a more prompt and decided effect.

As soon as the calf is dropped, I milk the dam twice a day, as usual. I let the calf run with the cow night and day for a month, and at no time does it consume more than half the milk that the cow gives. By that time the calf begins to eat, and they are then separated during the day. The cow is milked at night and turned into her quarters with the calf. It is more natural, and surely more humane, to let the cow have the care of the calf by night than by day. The cow will not let you strip her, she holds the milk back for her calf, which is a better stripper than any human milker. This is kept up for another month, when the calf is weaned. In order to prevent the cows from falling off, they are milked as carefully as though she had no calves, and to induce them to let their milk down, they are treated to good feed whilst being milked. Your good cow seems to appreciate this, probably forgetting her calf or, most likely, like some people, not able to attend to two things at once. At any rate you will soon notice her appreciation by a large flow of milk, and her satisfied, if not thankful, appearance.

Yours truly,

F. B. S.

terms. Feeding the last named materials increases the value of the rough feed, as a larger per cent. of it is digested when fed with other rations; the concentrated feeds also greatly improve the manure pile.

Growing animals cannot digest enough straw in cold weather to keep up heat, flesh and strength. There is in such practice a shrinkage and loss of flesh, which means, in the end, loss of time and feed. This loss may be prevented by a small outlay for additional feed, as has been suggested.

The great advantage gained by feeding under shelter, in addition to the easier fattening of the animals when kept warm, and their better condition generally, is the saving of all the solid manure and urine. This last is a very important consideration when estimating the profits of stabling cattle.

The majority of farmers do not believe that it pays to have corn made into meal to feed cattle. The refuse corn, with straw and fodder, a little oil meal cake and a few roots serve every purpose, and there is no waste.

GOOD CATTLE.—Mr. Wm. B. Hopkins, of Deer Creek, about the middle of November, 1882, bought 18 head of stock cattle, which averaged in weight 800 lbs. per head. After keeping them one year they weighed an average of 1,275 lbs. apiece, the gain being 475 lbs. per head. They cost 4.70 and were sold at 5.12½. He also sold a yoke of fat oxen, which weighed in Philadelphia 3,560 lbs. It was estimated that they lost about 200 lbs. on the trip.



a change in their food was made to something else.

On the contrary, clover is the most wholesome of all the foods for swine. It is palatable, succulent, highly nutritious, and yet easy of digestion. It neither clogs or vitiates the appetite. Giving, as it does, the digestive organs but an easy task, it keeps them in a healthy condition. Hogs kept on a clover pasture are thrifty, vigorous, grow rapidly, keep a good condition, and are unusually free from disease. If disease does break out among them it can always be traced to some cause other than their food, most often, perhaps, to filthy water or sleeping quarters.

When the pasture begins to fail in the autumn, the hogs are penned up and the fattening may be finished with corn and other foods designed more as correctors of the evils of a corn diet than as fatteners. As I have already said, corn is a superior fat former. The summer growth on pasture has been in bone, muscle and adipose tissue almost equally, the fat being a little in excess. The failure of the pasture makes some other food necessary. Corn is the cheapest that can be provided at this time, and advantage is taken of this period to rapidly fatten the hogs, instead of "just letting them grow." There is a good frame to build upon; a hearty appetite to demand large quantities of food; digestive and assimilative organs in vigorous health to convert this food into animal tissue, and all these are the results of the wholesome clover diet. On account of these the hog then fattens rapidly. He is confined in the pen that exercise of too great a quantity or severe a quality may not break down more of the animal matter than is absolutely necessary. After a couple of months of such feeding the animal is fat and is marketed.

It is apparent that this is cheap pork. Nothing is lost that could be gained. The consumption of food to support the life of the animal, while the surplus is forming, is reduced to the minimum. The food supplied is of the very cheapest and that best designed to accomplish the object sought. The fertility of the land and the health of the hog are maintained.

#### Feeding Oil-Meal.

At this season of the year, says the *Breeder's Gazette*, when nothing green or succulent is to be had, cattle are liable to suffer from impactions and other disorders of the stomach in consequence of partaking of too large quantities of coarse and dry food, and thus get more or less of their feed, and suffer in condition and general health. This is serious enough in the case of store cattle, but in the case of those being fed for approaching sales it is much worse, as ground is lost which it takes time as well as expensive feed to regain. This condition of affairs could largely be avoided and the cattle maintained in better thrift if a small portion of oil-meal were included in the daily ration. We believe it can be fed with profit, as a stock food in composition with other foods; but without entering upon a discussion of this question now, or attempting to convince gentlemen to adopt a new practice when the old is so convenient to follow—reserving this for future consideration or allowing it to rest upon what has heretofore been said—we desire to urge the use of enough oil-meal to keep the animals in thriving, healthy condition. A very little, given regularly, will answer the purpose, and it will be found admirable in preventing constipation and imparting to the stomach and digestive organs a fine, healthy tone. It assists greatly in the digestion and assimilation of other foods, and the use will be found in every way satisfactory. It can also be fed to other descriptions of live stock, in smaller quantities, and we have found its use particularly

advantageous with horses subject to colic or intestinal disorders. Oil-cake (old process) in car-load lots, without bags, is worth in this market (Chicago) about \$23 per ton, and at this price the whole of it ought to go into home consumption. We can remember when it brought \$38 to \$40 per ton, while corn ranged along in the fifties.

#### Creamery Butter.

Those who have watched our market quotations will have observed, says the *Farm and Fireside*, that "Creamery" butter is constantly quoted from three to six cents per pound higher than "Dairy," and this, in turn, from six to ten cents higher than "Common," and no doubt many have wondered what practical difference there can be between these various grades.

"Creamery" butter is simply pure, sweet, well made butter, no better than is made at times by many farmer's wives, but it is made by persons who, by devoting their whole time and attention to this work alone—not making it secondary to other household cares—and by being supplied with every necessary appliance for controlling temperature, cleanliness, etc., have acquired such skill in it that the quality of the butter is of perfect uniformity from one end of the year to the other, consequently consumers know just what they will get in buying it.

"Dairy" butter is often just as good as "Creamery," but it is made by persons who are largely occupied by other duties to which the dairy work is secondary, consequently there is always a liability that some particular lot of butter shall be a little off flavor, owing to neglect of the cows, milk, or butter, at a critical period. The large scale upon which creamery butter is made is one of the necessary factors to its uniformity; it is next to impossible to make such butter from a single cow, or even from two or three cows, because of changes constantly occurring in the milk, owing to changes of food, remoteness from calving, etc. But when the milk is drawn from two or three hundred cows, some of which are weekly coming in fresh, it will be seen that one potent cause of irregularity in the quality of the butter is eliminated.

"Common" butter appears on far too many tables. It is either white, salty, rancid or tainted with the odors of unclean cellars, or all of these combined. Its cost of manufacture is as great, often greater, than that of the best "creamery," but through ignorance or neglect of some of the very simple essentials of regularity or cleanliness in the care of the cows or of the milk or butter, its quality is ruined. By very much the larger part of the butter sold by our grocers is of this quality; indeed, it is so difficult to get butter that is uniformly fresh and sweet that the market is always open to butter of the better grades, often at double the price paid for the poorer.

#### Large Sale of Cattle.

Messrs. Burleigh & Budwell, of Vassalboro, Me., lately made the largest sale of pure-bred cattle ever effected, it is said. They sold to the "Indiana Blooded Stock Company" 69 head of Aberdeen-Angus, and 131 head of Hereford cattle for \$93,350. The bulls are selections from twenty-five of the choicest herds of Scotland, including the Earl of Southesk's, Sir George McPherson Grant's, George Wilkin's, Capt. A. Mann's, the late Wm. McCombie's, and in fact representatives of a very large part of the leading herds of their native country. The Herefords were selected by Mr. Burleigh personally, regardless of trouble or expense.

Senator W. T. P. Turpin, of Queen Anne's county, Md., made fourteen hundred barrels of corn this year on his Wye river farm.

#### Poultry Yard.

##### Poultry Raising.

"What I know" about poultry raising, I have learned through an experience of fifteen years on a farm with all kinds of poultry, except geese. During several years of this time I have been an invalid, unable to do the greater part of the work that falls to the lot of the farmer's wife, and taking care of my poultry has been a very pleasant as well as profitable recreation.

The best capital to begin with is good, sound common sense. This will enable you to see that the birds must be kept perfectly healthy, and the means by which you may gain this end.

Almost every poultry raiser has some particular breed of chickens which is the best, and every one can make the selections according to their fancy. My own choice is the Brahma, which I think, all things considered, is the best farmers' fowl. Their greatest fault is laying too few eggs, unless very extra care is taken in feeding, which often does not pay; but when a year-old hen readily dresses six and one-half pounds, I can overlook the "egg every day and two on Sunday." Another very desirable quality is their non-scratching, especially on these "fenceless plains." They have no desire to find the center of the earth directly under your pet petunia bed, or cucumber vine.

Having secured your breed, your success will depend on taking intelligent care of them. They must have a clean, dry, warm house, well lighted and ventilated, plenty of pure water and good food. You do not need to send to an architect for "plans and specifications" of a poultry house. Four posts long enough for the required height, set in the ground far enough apart to give you the required space, sided up close on the north and west, slatted on the south and east, well covered with hay, will answer all practical purposes. Replace the hay cover every year with fresh hay; the perches consist of an inclined ladder of the required length and width, the lower perch near the ground. My hen house is built on this plan, for convenience, and to save time and strength in hunting eggs and caring for the hens. I have the nest boxes in the hen house, in rows running across the end, one row above another. The floor of the box should be covered with dry dirt and changed occasionally. The best nesting material is fine hay. The floor of course is the earth if it is always dry. Once cleaning through the year will do, if there is litter scattered in occasionally, and dry dirt often in damp weather, but the house must be dry.

When the hens want to sit, I transfer them to the first box in the upper row, and so on until the row is full. (A Brahma will sit anywhere or under any circumstances, almost.) I have a door made of thin slats hanging in front of the boxes where the hens sit, to keep out the others. Sometimes in the forenoon I gently lift every hen off. The food should be whole grain; have the food and water near. I afterwards see that every hen is in her place again. Set two hens at once, as one can care for both broods; mark the eggs with ink with the date set. Do not give too many eggs to the earliest hens set, nor set hens too early; the 1st of March is soon enough to begin in most seasons.

The scientist will tell you there is no way to tell the sex of an egg, but you select the largest eggs and you will have a preponderance of male birds. In hot, dry weather sprinkle the sitting eggs with warm water twice a week to keep the shells from breaking. Do not have too many male birds; one to three dozen hens is sufficient.

But the most important thing I have to

tell you of is a sure preventive of cholera and gapes, and I do not know how many more diseases. I found it out over twenty years ago, and I have never seen it fail. I have never lost a chicken with cholera, and I have raised from 150 to 500 chickens in the year for the last fifteen years, while my neighbors' chickens have died by dozens at different times. It is simply this: I never fail to change the male birds of my flock every year. I get some that are no kin to my flock every year, and then I market all the hens that are one year old, every year, for a hen is never so good to eat or lay after the first year. They fatten easily, and therefore are much more liable to contract disease.

I have never lost any chickens, except a few with lice when I first began. Sometimes during a long wet spell, some of the little chicks will get lice on them. A small portion of sulphur in lard, rubbed on the top of the head, (where they always breed,) is the cure and during such times I sprinkle sulphur in the sitting nests, and if the old hen should have "them" too, rub the top of the head and the vent also, and a small quantity of sulphur may be put in the food. Clean, healthy chickens do not have lice. After every brood is removed from the nest box, it must be emptied and sprinkled with slaked lime.

My rearing coops are entirely separate from the hen house. They are very simple in construction. "John" can make them in a very short time. A ridge the width of the coop is thrown up, and the coop built on it to secure against damp. The coop ought to be about thirty inches high; any length desired; boarded close at the back and ends; made into divisions with slats to accommodate one hen each, and securely covered with hay. My coop is built under a row of young cottonwoods, facing the south; the dirt floor covered with hay, which must be kept clean. The first hen that comes off goes into the first division; fasten her in with a slat door; the same door will do successively all along. The coop should have slats part way down for ventilation; a wide plank will secure the front at night. We have no rats in this part of the State, and the traditional "yaller dog" keeps off the other vermin. Keep the hen in the coop until she will come there to roost.

Soak scraps of bread in sweet milk for the first feed; afterwards make corn meal into dough with sour milk, or sweet, if you have it, or water. It is the cheapest and best feed, although the scientist will tell you it is very improper indeed, "sours on the stomach," etc. Keep your feed, together with a shallow vessel of thick, sour milk, in a coop near by which excludes the hens. In damp weather put a little cayenne pepper in their food, and keep them close in cool, damp mornings and during rains. Before cold weather, teach the chickens to go to the hen house to roost.

I have told you what I practically know to be true. I have received many valuable hints from agricultural papers, and I also have found out many things by experience. Every farmer's wife, or children, can make a success of poultry raising, and thereby add not only to the dollars (which are often few, like "angels' visits," to the farmer's wife,) with which to buy many things not otherwise attainable.—*Cor. Kansas Farmer.*

#### Baltimore Poultry and Pigeon Club Show.

The exhibition of poultry held January 8 to 12 at the Natatorium in this city was a very successful one. Though the number of entries in the poultry department was not as numerous as some former shows, yet the excellence of the birds exhibited has never been excelled. The display of pigeons was exceedingly fine. Fantails alone being conspicuous by their absence.

The competition in Light Brahmas was exceedingly strong. The winning birds of Dr. Geo. H. Cairnes and W. M. Stirling were especially noticeable for their excellence, and convinces us that as good birds can be bred in Maryland as there are in New England. The same may be said also of the fine bred Dark Brahmas, owned by E. Buckley. The



Cochins were not equal either in numbers or quality to those at former shows, though the Partridge Cochins, owned by E. Weber Hoen, are fine specimens of this handsome breed. Of Buff Cochins, the winning birds were fine. Nearly all Black Cochins were thrown out by the judges for disqualifying causes. The White Leghorns were the largest class in the show, and contained many excellent specimens. Evidently the egg producing quality of this famous breed is being more appreciated. The Plymouth Rock class was also a very large one and the winning birds good as markings. The best Cockerel in the show was a Plymouth Rock, shown by A. L. Bosley. The first premium-breeding pen of Mr. T. W. Hooper was a flock of evenly mated and marked birds and well deserving of the honors they secured. The new breed Wyandottes were represented, but not by very fine specimens. The French class was not large, but the Houdans exhibited by Mr. Pinckney, of Western New York, were the finest specimens of this breed ever shown in this city. The Dorkings shown were from one exhibitor. The Bantams were very much behind both in quantity and quality of previous shows. Notwithstanding the weather was very unfavorable the attendance was very good each day.

G. O. B.

### The Apiary.

#### Keep Bees.

The beginning of the new year is a general time of settling accounts and making resolutions for the future. The head of many a family is overcast with gloom as he ascertains the true state of his affairs, and perceives how little he has to show from the past year of toil. His family may have been industrious in a general way, and yet been consumers only, and not producers. We knew a farmer's family where there were three daughters just budding into womanhood. On inquiring of the mother what she had to sell to clothe her daughters with, she answered, not a thing. Have you no butter, eggs, fowls, honey, or bees-wax to sell from this good farm? No, nothing. These girls were not idle! Oh no. They pounded the organ, and the result was music as sweet as filing a saw; crocheted, darned lace, and helped mother. When their father went to town they asked him to bring them a pair of shoes, a bustle, or a necktie, with no thought or care. And all the while the neighbors said "he was hard run."

There are few farmers' families that are so situated that they can not care for a few colonies of bees. They not only need the sweets they gather, but the industrious insects help to fertilize the bloom of their orchards and meadows. Nature has appointed this insect, and it alone, to do this work for her.

Honey can be used in many ways as a substitute for sugar—in canning fruit, making cookies, and for other culinary purposes.

We would advise all those contemplating bee-keeping to start on a small scale, if they have no previous training. Two colonies are plenty, and then let their knowledge increase in the same ratio as do their bees. The next thing in order, after purchasing bees, should be a good standard work on apiculture; and study it well. A person should be full of theory, and then they are ready for practice. Those who are energetic, willing to work, intelligent and willing, eager to learn, observing, persevering, and attentive to their work, will rarely ever fail in apiculture.

We have heard farmers say that bees will not flourish with the same care given to other farm stock, and that they have not time to attend to them. We would recommend to all such to try the experiment of procuring a colony or two of beautiful Italians, in some good movable frame hive, and present them to the family, with abundance of bee literature, and see if they are not taken care of, especially if the almighty dollar puts in an appearance.—Mrs. L. Harrison, in *Prairie Farmer*.

### Horticulture.

#### Commercial Horticulture on the Peninsula—Its Progress and Possibilities.

No. 1.

Messrs. Editors American Farmer:

Friend Kerr's request reminds me that I did promise to say more of Eastern Shore horticulture, its progress and possibilities. With your permission I will endeavor to atone somewhat for my neglect. My object will be mainly to notice in a general way the growth of horticultural specialties in the different counties, the causes of success in some, and of failure in others. These remarks are not intended to be restricted to the nine counties of Maryland on the Eastern Shore, but the whole Peninsula.

From its geographical position, the Peninsula between the Delaware and Chesapeake must become largely devoted to the production of the food crops for which the constantly increasing population of the great cities around it are ever clamoring. While I cannot agree with those who think there is no longer any profit in grain-growing on the Peninsula, I am convinced that the day is not far distant when the farmers of the Eastern Shore will find it more profitable to send their Indian corn to market in the shape of live stock, and instead of splitting their red oaks into barrel stave material for Baltimore coopers to make barrels to hold flour made in Baltimore of Eastern Shore wheat, will make the barrels and the flour both on the many magnificent water powers scattered all along the centre of the Peninsula. Not, of course, that the farmers should turn manufacturers; but that country is always the most prosperous which uses its own raw materials, and whose agriculture draws additional profit from feeding those who add their labor to the value of his raw materials.

Commercial horticulture on the Delaware Peninsula must necessarily take the shape of farm gardening as distinguished from market gardening proper. That is, the growth of such products as can be handled in large quantities and shipped cheaply and safely, while the market gardener devotes his attention to a few valuable acres near a city, and handles bulky and perishable crops that the farm gardener cannot find profitable. The effort to do both has been a prolific source of failure in many attempts at "truckin'" on the Peninsula.

Before the construction of its railroad system the Peninsula was almost exclusively devoted to grain-growing, in fact entirely so, except in the two Virginia counties and a portion of Somerset county, where the growth of sweet potatoes and watermelons for the Baltimore and New York markets has long been a specialty, and for many years furnished summer freight for the puny of the oystermen. So exclusively has the Peninsula been devoted to grain crops that the growth of grass for hay was absolutely unknown south of Cecil, Kent and New Castle counties. In fact most of the farmers seemed to be of the opinion that their lands would not grow timothy. Even in those sections where agricultural improvement had taken a foothold, the only forage beyond corn fodder was clover hay. The sole dependence for horse feed was (and in many parts still is) upon the laboriously-saved corn blades, and in seasons of a short corn crop these commanded fabulous prices. In the neighborhood of some of the county towns, pet lots cultivated as a recreation by some merchant or lawyer, produced enormous crops of timothy and orchard grass year after year, but the farmers never seemed to comprehend that their lands could be brought to produce these crops just as well as the "town lots," and went on stripping corn blades at a cost of fully twenty-five dollars a ton. When emancipation be-

came an accomplished fact a change in Peninsula agriculture of course became necessary. In the upper counties of Cecil and New Castle, the change had long been in progress, since slavery, in the neighborhoods bordering on Pennsylvania had long been merely a nominal institution, and in New Castle county, especially, improved agriculture, small farming and fruit growing had become the rule. In the counties of New Castle in Delaware and Cecil and Kent in Maryland, the special culture of the peach, while bringing in a great deal of money, was really a check to improved farming proper, as these great commercial specialties in agriculture always are. In many neighborhoods the peach absorbed all attention, and liming, manuring and the growth of clover, and improved breeds of live stock all came to a stand still. I have observed the course of a great many peach growers in Maryland and Delaware, and while there are a number who have made money by large speculations in peach growing, I am inclined to think there have been fewer failures among those who made the peach simply a part of their regular farm culture, and never allowed it to absorb all their attention.

The late Col. Edw. Wilkins was probably largest single grower of peaches on the Shore, having at one time 150,000 or more trees. Upon one occasion I was seated with him on the deck of one of Chester River steamers, as we came in sight of his beautiful home place "Riverside." A small field near the river had been in wheat and the straw was stacked in one corner. Pointing to the straw stacks, Col. Wilkins said, "yonder is the first crop of wheat I have grown for sixteen years; the crop was 36 bushels per acre, and years ago I have grown 40 bushels on that land. If I had never made a specialty of peaches, and had only given them a fair place with wheat, corn and grass, I would have been thrice as well off as I am to-day." And yet I have known him to realize \$75,000 from peaches in a single year. But the intermediate years without peaches and with immense orchards to cultivate, cut down the profits hugely. I mention this because the "peach fever" is breaking out badly again on the Shore, and while I would not say a word to discourage its culture I would urge all to avoid risking all their eggs in one basket. Those who grow the peach simply as a part of their farming, will be better able to give their trees proper attention and will always realize more per ton than the large specialist who simply leases a tract of land for a term of years to get all he can out of it in peaches. The true farmer, whatever may be his crops, always keeps the future of his land in view, while the specialist sacrifices his capital for the future to present profit. In my opinion the days of great peach orchards on the Peninsula are over, and the peaches of the future will be grown just as extensively but by a constantly increasing number of small growers. In some parts of the Peninsula, particularly in the flat lands of the southern counties of Maryland, the peach never has, and probably never will be a profitable crop, for physical reasons, but these lands have their recompense in their peculiar adaptation to other crops. But of one thing I am satisfied, the successful peach grower of the future will grow nothing but peaches on the piece of soil devoted to the trees, and he will find it just as profitable to purchase fertilizers for his trees as for his wheat.

W. F. MASSEY.

PLANTS that are kept in cold-frames during winter should be aired during mild weather. No greater evil can befall them than to be confined in a heated atmosphere. Plants thus protected are usually those that will not be injured by a few degrees of frost, but the object should be to merely prevent them from severe frosts; slight frosts will do no injury.—*Nat. Tribune*.

### Selection of Clons.

Messrs. Editors American Farmer:

In setting trees, especially apple, to ensure free growth and success, the following requisites are essential in their selection:

1. See to the thriftiness of the clons or young trees. The bark of both trunks and branches should be smooth and free from moss. The trunks should be straight, and the branches well balanced.

2. Trees with bad crotches, or those having equal division of two branches near the upper part of trunk, should always be discarded, as they will inevitably split down and ruin the tree when loaded with fruit.

3. As to the proper age of scions, or trees for transplanting, those of one or two years are old enough. Such are more apt to live and grow freely than larger ones that have their roots much shortened, bruised and injured in taking them up; and less care is required in setting them.

4. The trees should be stocky. Trees crowded in nursery rows, as is often the case, are generally spindling and slender—discard these, or take as few as possible.

5. Some young nursery trees have nearly all of their roots on one side. Such trees will invariably topple over, or careen to such an extent as to render them almost worthless.

6. Select your own trees from the nearest nursery, and most reliable nurseryman.

As an appendage to the above we would remark that we have lost more trees by sun-cald than from the bores of any other cause, or all others combined. The injury is mostly to trees from four to six years old, that lean to the Northeast, caused by the 3 o'clock sun during, we think, July and early in August. The tree with exposed trunk is blistered and scalded. The worm gets to work, the bark will peel off, and the tree had as well be removed and a new one set in its place, but see that the place is well manured.

REMEDIES. 1. Low heads. 2. The Protection Board.

Take two boards three feet long by eight inches wide, nail the ends together at right angles, place the upright arm that points to the zenith close up to the trunk, put a flat rock on the other part or pin it to the ground with a cedar pin with a head. After spring planting, if the trees are exposed to high winds, place flat rocks around their stems and no staking is necessary. J. FITZ.

Kewick, Albermarle Co., Va.

### Sweet Corn.

Messrs. Editors American Farmer:

Some little time ago I saw an inquiry in one of the agricultural papers about the best varieties of sweet corn for general use, and the best to succeed one another, so that it can be had from the time the earliest is fit to use until frost comes. I have followed the following plan for two years past, and have found it to work admirably. I start the Early Minnesota, which is the best of all the early varieties, and Moore's Early Concord in pots in a hot bed, and when it is about three or four inches high I transplant it where it is to grow, being careful not to break the balls of earth. At the same time I plant in the open ground another lot of Moore's Early, and about two or three weeks afterwards I plant for my general crop: First, Moore's Early; second, a variety of my own, of which I do not know the name, (the Triumph would take its place very well, I think,) and for latest, Stowell's Evergreen, and Mammoth, or Egyptian.

This is the best plan I have ever tried. It gives me a succession without any break and the varieties are all of the best. I plant about fifty hills of each variety, which gives me enough for two families, with some to spare for seed or to give away.

I always plant my 'sweet corn' in blocks, that is, I take six or eight rows according



to their length, or the amount I need, and plant the first six or eight hills of each row with one variety, and so on until all is planted. In this way each variety is in a block to itself, and is much more convenient than if each variety is planted in single rows. I adopted this plan because experience has taught me, that when corn is planted in a single row, or even two or three rows, which run the whole length of the garden, as recommended in a former number of THE FARMER, and more especially with the very early varieties, it does not fill out well and causes a good deal of disappointment. I remember one year in particular, that I had a good deal of trouble; I planted all the corn that I thought I should need for early in one row, and for later use in another. The consequence was that I had very little corn that year that was fit to use.

I made a fertilizer experiment on my corn last year, which I think worth noting. In all the six rows of which I have spoken, I put a good fork full of well rotted horse manure in each hill. In one row I put a table-spoonful of phosphate on top of the manure. In the next three I did the same and mixed both well with the soil with a digging fork. For the fifth row I mixed phosphate and ground bone in equal quantities, and put the same amount in each hill, and in the sixth row I put nothing but the manure. I covered each row with a little soil and then planted the corn. During the whole season I could see little or no difference in the first four rows, it all came up and grew well, but there was a very decided difference in the other two rows; the sixth did not grow near so tall, and was a sickly yellowish green color; the fifth was a little better, but neither of the two did near as well as the first four. From this experiment I made the following conclusions: First, I think it makes little or no difference whether you mix the manure with the soil or not. Second, I do not think it a good plan to mix phosphate and raw bone for corn. Does not the one counteract the effect of the other? But I do think it is good for potatoes, as, per a trial last year, which I shall continue this year; and find that phosphate is a great help to the healthy growth of corn in its early stages by giving it an early start, and giving warmth to the soil around the roots. I hoed twice, and cultivated once, and the results were good, but I am sorry to say that the early frosts in September spoiled the Evergreen just as it was getting fit to use. I had got but one or two messes from it. I also lost all the Egyptian. I was very sorry for this, as it had been so highly spoken of by some of my neighbors, and was my first trial of this variety. JAMES HUNTER.

Massachusetts.

#### The Culture of Horseradish.

W. D. Philbrick, a well-known market gardener near Boston, contributes to the *American Cultivator* the following as to the requirements of this crop and its profits: Horseradish demands a deep, mellow and rich soil, made fine by thorough tillage in previous years. It does well on a black muck, if the latter be well drained and thoroughly worked so as to have no lumps of raw peat near the surface. As soon as the root in its downward growth strikes a lump it branches out and produces a mass of nearly worthless fibres or small branches, instead of one or two large tap roots, as it will yield in fine, mellow soil. It also needs liberal manuring to produce a good crop. Eight or ten cords per acre of good, fine manure is none too much, and it is important that all lumps should be worked fine in spreading the manure.

Horseradish is planted as early in May as the land can be made ready, and it pays well to take some pains in plowing deep and fine. The land is usually plowed twice with a

large plow and strong team, taking only a narrow slice and rolling the land after each plowing. The land is then thrown into ridges, with a large plow, about 2½ feet apart, which ridges are raked off by hand, and the radish "sets" planted by hand along the middle of each ridge, twelve or fifteen inches apart and an inch or two deep. It is of some importance to have the sets planted at even distances, and for this purpose I run a common wheel marker along the ridge to mark the spots where the sets are to be dropped. Any boy can then plant them and be sure of having the row straight and evenly planted.

In order to pay for the somewhat expensive preparation of the land it is usual to cultivate some quick-growing vegetable, such as lettuce, beets, spinach or onion sets, on each side of the ridge. The horseradish is slow to start, and any crop thus grown will not interfere with the radish if it can be cleared off by July 10. The horseradish "sets" are simply bits of last year's root, about the size of a pipe stem, and half an inch long. Care is needed to keep them moist while planting, for if they are withered much they will be slow to start and perhaps fail entirely. After-culture consists simply in thorough cultivation and weeding until the crop covers the land, which it will do in August; and if in rich ground the tops should be three or four feet high and so dense that nothing else can grow.

The crop is harvested in November, after the frost has killed the leaves. The gardener should go over the land first and clear away the tops by hand, throwing three or four rows together so as to cart them off easily; then take a large plow and a strong team and plow a furrow on each side of a row first, and then run the plow directly under the row. It takes good horses and a strong plowman to do this well, for the roots are very tough and long. Two or three men with forks can throw out the roots as fast as the team can plow them.

The roots are stored for sale in a pit about two feet deep, and covered with earth and then with litter; they must not be covered too deeply or they will start to grow, which injures them. The crop is sometimes left in the ground until spring and harvested then, as it is perfectly hardy; but most gardeners prefer to have such work out of their way in spring.

Horseradish is a fairly profitable crop. It yields two to four tons per acre and sells at five to ten cents per pound. It is some trouble to wash and trim it for market, and it wilts so easily that it cannot be stored in a cellar, and even in a pit needs some care to keep it in good order. The worst drawback to its culture is the difficulty of eradicating it. It is about as hard to get out of the land as couch grass or Canada thistles; but upon market gardens where cabbage and celery can be made to alternate with horseradish, it can be worked out of the land in one or two years. It is for this reason, probably, together with the high manuring and thorough tillage required to grow a good crop, that its culture is mostly confined to the market gardens near large cities, where it is one of the staple products. Upon ordinary farm land and with such care as the average farmers give to corn, potatoes and cabbages, it would not only be unprofitable, but a troublesome weed, difficult to eradicate.

A good top dressing of unleached ashes is recommended by a correspondent of the *American Garden* as especially valuable for onions, if not applied too thick; but to some tender vegetables they do more harm than good when used as a top dressing. They are especially good for loosening a stiff soil, on which their effect will be apparent for a long time; and, in the orchard, I do not know of anything more valuable. He also found them valuable for salisfy.

#### Window Gardening.

(Concluded from page 7.)

For rooms where the temperature does not exceed 65° nor fall below 40°, the conditions probably existing in sitting rooms of most country houses, the following plants are recommended:

Beginning with abutilons (often called flowering maples), we have a class of elegant free-flowering winter-blooming plants, embracing pure white, yellow, orange and deep red flowers, thriving in a partially shaded window, adapting themselves to any mode of training, plunged out of doors in the summer time, re-potted in August. They can be trimmed into either standard or any other form, and will flower continuously.

Azaleas are very beautiful, easily managed, but rather impatient if subjected to a dry atmosphere or allowed to get dry; in fact they should never be allowed to get dry at the roots, either winter or summer. A frequent bath, immersing plant and pot, is a safeguard against drought and otherwise beneficial. A partially shaded window and a shady spot in the summer will give them about all they require. As to varieties, there are no poor ones, and most florists have a good selection. This brings us to another popular flower, the camellia, one of the very easiest plants to manage, but unfortunately it is generally a rather unsatisfactory window-plant, from the fact of its being so very conservative. It does not show any abuse at the moment of affliction, and not even for months, but tries to forget and start afresh, with better hopes; but alas! it breaks down and its apparent fine, large buds drop off, one by one, until none are left. This, in nine cases out of ten, is from the plant being allowed to suffer for want of water in the summer time. Those curious enough to open one of the fallen buds will find generally the outside of the flower quite fresh, but the centre is always discolored and dead, and has been for months. With well-drained pots it is almost impossible to give camellias too much water in the summer time; and the same treatment and position as advised for azaleas will exactly suit camellias. As to the beauty of the camellia, every lover of flowers is aware of it. They are rapidly gaining favor again, and will shortly recover their once great popularity; and as there are no poor varieties, it is quite easy to make a selection.

Calla lily (*Richardia æthiopica*) is another very popular window-plant, and yet not very generally successfully managed. Those having plants at this moment will do well to keep them growing in a light, sunny window; if they have not flowered, do not lose patience and set them in the background; bear with them until the first of May; then find some shaded, damp corner in the garden: in this plunge your plant over the rim of the pot; about twice a week during the summer carry along with you a basin or watering-can of soapy water, and give your calls. Toward the middle of September dig it up, and if the pot appears too small for the plant, get a pot one or two sizes larger; turn it out, and place in the larger pot without breaking the roots; then stand it in the lightest sunny window. As it begins to grow, give plenty of water, and often some stimulants, and by Christmas, if these directions are followed, you are sure to have flowers. After the flower-buds are in sight, you can place the plant in a very warm position without injury.

Carnations are always favorites and should be very satisfactory plants; they can always be had established in pots in the fall. They delight in a rich soil, a rather low temperature, and plenty of sun. Those desiring to grow their own plants should plant small ones in the open ground in May, in a sunny position, occasionally cutting off the tops of the plants, to keep them bushy, until the

end of July, after which they should be allowed to grow. At the beginning of September dig up carefully with ball of earth and place in pots well drained; put in shady place, and after beginning to grow, and before frost, remove into the house. A few of the beautiful chrysanthemums should be planted at the same time as the carnations, and subjected to precisely the same treatment, or a few can be plunged in pots and watered as often as required. Those who have a window should have some of this the most beautiful of autumnal flowers.

Daphne India, two varieties, are most easily managed, and perhaps are the most deliciously perfumed winter-flowering plant we have, requiring about the same treatment as azaleas.

Fuchsias can be made to flower quite early in the spring, and the speciosa and one or two other kinds are good winter-flowering varieties. Fuchsias require good drainage, a light, porous soil, a somewhat sunny position in winter, slight shade in summer, and a rather moist atmosphere. Geraniums (these are really pelargoniums, but we seem to have got so used to the name geranium it is a hard matter to believe any other) are for a light, sunny window, where the temperature can be kept about 55° to 60°; the best of all winter-flowering plants, and all growers should have among their collection both double and single varieties, especially some of the finer forms of the single kinds. They are so easily managed and so continuously in flower it would seem there ought to be no dearth of flowers where there are half a dozen kinds of geraniums. There is often a great mistake among window gardeners, expecting to have their windows gay all winter and their flower-gardens gay all summer with the same plants, and repeat. This cannot be done; those plants intended for winter-flowering should be nicely rooted plants in May, then potted into small pots and plunged in the open ground, the flowers to be kept picked off all summer. About the middle of August they must be potted into good soil in well drained pots of four or five inches in diameter, placed in some spot where they will have a little sun morning or evening, but not plunged as before. After the middle of September take them inside, in the sunniest window you have, water well, and carefully turn the plants around from time to time, to keep them in good shape, and as the pots get full of roots, give a little stimulant at least once a week, and there will be no dearth of geranium flowers. If old plants are kept over, they should not be allowed to flower during the summer, but treated as advised for young plants. Those desirous of a few more ferns for a cool room should add to the list given *Cyrtomium Fortunei*, *Lastrea aristata variegata*, *Nephrolepis tuberosa*, *Pteris argyrea* and *tremula*. Other palms could be added also for growing in a cold window, as *Areca rubra*, the three *Chamærops*, *excelsa*, *Fortunei* and *humilis*; *Corypha australis* and *Seacforthia elegans*. Of miscellaneous window-plants are Chinese primulas, cyclamens and cinerarias, easily obtained from florists in the fall, and requiring about the same treatment as advised for the management of the geraniums after being brought into the house. In this article I have not exhausted half the window plants available.

There are a few other plants which should be included in our list, such as climbers. The European ivy, the German ivy, the *Senecio macroglossa*, *Lygodium scandens* and *Smilax*. And for basket and bracket plants the *Kenilworth ivy*, *Othonna crassifolia*, the different *Tradescantias*, and several other kinds that will present themselves to the enthusiastic window gardener.

Of the palms, *Chamærops excelsa* is the best probably for rooms, resisting the injurious effects of gas better than most plants.



# The American Farmer

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At the office of THE AMERICAN FARMER  
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Maryland Horticultural Society.  
Maryland Dairymen's Association.  
Maryland State Grange, P. of H.  
Agricultural Society of Baltimore Co.

BALTIMORE, JANUARY 15, 1884.

## Clubs and Renewals.

We beg to express our thanks to such of  
our friends as have already collected and  
sent in their usual clubs of subscribers to the  
FARMER, and we venture to renew our re-  
quest to all to do the same as soon as their  
convenience will allow. Renewals are also  
in order, and we hope will have the prompt  
attention of our subscribers.

## Our Premiums.

We again call attention to the premiums  
offered for lists of subscriptions. In every  
locality whither THE FARMER goes there is  
some one who might be enlisted in the work  
of enlarging its circulation, and receive some  
of these articles for his labor and time ex-  
pended.

## Death of Major Luther Giddings.

It is with deep regret we announce the  
demise, on the 5th instant, on his farm near  
Annapolis, of this well-known and highly  
esteemed citizen. He had been in rather  
delicate health for some time, but his death  
resulted from typhoid fever, after an illness  
of only about a week. Major Giddings was  
in the highest rank of the intelligent agricul-  
turalists of our State, and upon the adoption of  
the Constitution of 1867 he was made As-  
sistant Commissioner in the State Depart-  
ment of Agriculture and Emigration, a bureau  
which existed only a few years, necessary  
legislation for its continuance never having  
been enacted. For many years he had been  
engaged in grape growing and wine making,

but no branch of farming failed to receive  
his attention.

Public spirited and enterprising, always  
alive to the requirements of agriculture and  
to the best interests of the State, with many  
attractions of mind and manner, his loss will  
be deeply felt by all who knew and admired  
him.

Major Giddings contributed more or less  
frequently to the pages of THE AMERICAN  
FARMER, sometimes under the nom de plume  
of "Laborer," and more recently under his  
initials.

## Pleuro-Pneumonia Legislation in Congress.

### PROTECTION OF CATTLE.

The sub-committee of cattle men, appoint-  
ed to prepare a bill for the suppression and  
extirpation of pleuro pneumonia and other  
contagious diseases among domestic animals,  
has completed the proposed measure. It  
was submitted to the entire committee of  
cattle men appointed at the Chicago Con-  
vention, in November, to propose legislation  
on the subject, and was accepted, and has  
been given to the House Committee on Ag-  
riculture.

The bill provides for a bureau of animal  
industry under the Commissioner of Agri-  
culture, which shall be charged with pro-  
curing information on all subjects of interest  
to cattle owners, and whose agents shall have  
power to take measures for the protection of  
live stock from contagious diseases, especial-  
ly pleuro-pneumonia, and to establish quar-  
antine on cattle imported from places where  
such disease exists. Such bureau is also  
to look into cattle transportation, to provi-  
sions in reference to their safety and comfort  
while in railway trains and all other matters  
relative to the proper care and protection of  
cattle.

## The Maryland Legislature.

This body assembled at Annapolis on the  
1st of the month and organized by the elec-  
tion of Dr. J. P. Thom, of Baltimore city,  
as Speaker of the House of Delegates, and  
Mr. Hy. Lloyd, of Dorchester, as the Presi-  
dent of the Senate. The minor officers, as  
determined by the act of the last session,  
were duly elected, and on Wednesday, the  
9th inst, Governor-elect McLane was inaugu-  
rated, and delivered a very brief address in  
the Senate chamber to both houses of the  
Legislature, and in the presence of the  
Court of Appeals, the Chief Judge, Alvey,  
administering the oath of office. The Gov-  
ernor promised in his address to send a mes-  
sage to the Legislature at a future day upon  
various subjects to which he wishes to call  
their attention.

The committees were appointed on Wed-  
nesday. The Committee on Agriculture, in  
the House, consists of Messrs. Griffith, of  
Montgomery; Lloyd, of Talbot; Cockey, of  
Baltimore county; Culbreth, of Caroline;  
Plowman, of Harford; Milburn, of St. Mary's;  
Morrison, of Frederick. And in the Senate,  
Messrs. Moore, of Montgomery; Mearns, of  
Cecil; Shriver, of Carroll; Allen, of Har-  
ford; and Roe, of Alleghany.

Mr. Brady, of Baltimore county, an active  
and intelligent member, identified with the  
agricultural classes, having been Master of  
the County Grange, of Baltimore county,  
and one of the founders, and for several years  
president of its Agricultural Society, has  
introduced a bill for the establishment of the  
Maryland Agricultural Experiment Station,  
and another for the regulation of the inspec-  
tion and sale of fertilizers.

MINERALS RECEIVED.—The two specimens  
of minerals from a subscriber in Balti-  
more county are Anhydrous Silicates (Epi-  
dote), composed principally of Silica and  
Alumina and some iron, (1 to 3 per cent.,)  
and of no value, commercially.

LEHMAN & MAGEN.

## An Agricultural Experiment Station for Maryland.

The farmers of Maryland are again mov-  
ing on the line of effort by their progressive  
fellows in other States in asking of the Leg-  
islature the establishment of a public insti-  
tution, which, though strictly agricultural in  
the direction of its work, cannot but redound  
more or less directly to the advantage of the  
public at large.

The promotive of agricultural progress,  
the enlightenment of farmers, the solution of  
questions which present themselves anew  
every season, involving the economical pro-  
duction of bread and meat, are public ends  
which deserve furthering by the State. The  
problems involved in the art of agriculture  
are such as cannot be satisfactorily investi-  
gated by individuals. The influence of cli-  
mate, the action of the recondite forces of  
nature, the delicate determination of chemi-  
cal inquiries; the origin, progress and devel-  
opment of contagions and infections in live  
stock; the habit of insect enemies, demand  
in their study the skill of experts. Yet all  
these are required for the protection and im-  
provement of our farming interest. And  
if this interest makes the basis of the public  
prosperity, as all concede, there is manifest  
propriety in the State undertaking to do  
this work for a class of its citizens, who can-  
not do it for themselves and yet to whose  
well-being it is essential it should be done,  
—this class comprising nearly a majority  
of the entire population.

Other progressive commonwealths have  
recognized the desirability, the necessity of  
such work on behalf of the agricultural  
community, and the States of Connecticut,  
New York, North Carolina, Ohio and New  
Jersey have provided agricultural stations  
such as is now proposed for Maryland.

Our State is the owner, by the gift of the  
United States Government, of a property ad-  
mirably adopted to the uses of such a sta-  
tion. The Arsenal buildings and grounds at  
Pikesville, in Baltimore county, possess al-  
most all the qualities fitting them for this  
use. The structures are commodious enough,  
substantially built and may readily be fitted  
at a moderate expense to the distinctive em-  
ployment suggested for them. There is suf-  
ficient land for present occupation, and  
more can be leased or rented as necessity re-  
quires. The situation is one central to the  
whole State; easily accessible; convenient  
to, yet sufficient removed from, our com-  
mercial capital. A turnpike road and steam  
and horse railways reach the place. The  
surrounding country is favorable for such  
an establishment; nowhere are more intelli-  
gent farmers, nowhere is better farming.

The proposition to use this eligible and  
handsome site for the advantage of the en-  
tire community is one which rests on sound  
policy and good sense, and we hope the  
farmers of this State, who have not yet done  
so, will seek to interest their representatives  
in the Legislature in support of a scheme  
full of promise of good to their class and  
to the whole community.

## Importation of Sumatra Tobacco.

Considerable excitement has ensued among  
tobacco growers in Pennsylvania, the Con-  
necticut Valley and elsewhere, as well as  
among dealers, by the discovery that Suma-  
tra leaf tobacco which is very light and fine  
was being imported in such a shape that it  
paid only 35 cents instead of 75 per pound  
duty. In the new tariff of '83, there is this  
provision:

Leaf tobacco of which eighty-five per  
cent. is of the requisite size and of the neces-  
sary fineness of texture to be suitable for  
wrappers, and of which more than one  
hundred leaves are required to weigh a  
pound, seventy-five cents per pound; if  
stemmed \$1 per pound.

It appears that last fall an importing house  
in New York imported ten bales of Suma-  
tra leaf tobacco which were found at the  
Custom House to be made up in a very  
irregular way. The bales were found to  
contain a considerable proportion of large  
leaf tobacco suitable for wrappers, but  
around this in each case was a quantity of  
inferior leaf fit only for use as fillers. The  
two kinds were not mixed, but each was in  
distinct volume. The appraiser declared  
that this cheap tobacco had been put around  
each bale by a repacking process, probably  
done at Amsterdam. He held that the bulk  
of fine leaf within each bale was subject to  
the high duty, and that only the cheap stuff  
on the outside should pass at thirty-five  
cents a pound. Collector Robertson was of  
the same opinion. The importers appealed  
to Acting Secretary French—Secretary Fel-  
ger being ill and absent—and that official  
decided as follows:

The law does not specify how tobacco  
should be packed, nor is there any limitation  
on the manner of its packing. None of the  
bales in question, as imported, contained, it  
is understood, eighty-five per cent. of leaf  
tobacco of the requisite size and of the  
necessary fineness of texture to be suitable  
for wrappers, and, if so, none of it is duti-  
able under the provision of law referred to.

No great publicity was given this decision  
until lately, when on its becoming generally  
known, there were numerous meetings, pro-  
tests, delegations to Washington, etc., plant-  
ers and dealers claiming that the act of Con-  
gress was virtually repealed by the above  
decision.

As preliminary to any decision the Secre-  
tary of the Treasury has directed the Col-  
lector at New York to suspend action under  
the decision before referred to, and to classify  
wrapper tobacco which may be found in  
packages according to the standard indicated,  
leaving the importers if dissatisfied with  
such classification to present their case by  
protest and appeal.

## Montgomery County (Md.) Farmers' Con- vention, January 15.

Notwithstanding the unfavorable weather,  
the lyceum at Sandy Spring, Montgomery  
county, was filled to overcrowding with the  
farmers of the county, who had assembled  
to consult together and compare experiences  
in crops, methods and processes. Many  
strangers were also present—members of  
farmers' clubs from Fairfax, Loudon and  
other counties of Virginia, and from How-  
ard, Prince George's, Frederick and Balti-  
more, of this State, who were attracted by  
the fame of these gatherings of the intelli-  
gent farmers of Montgomery. The meeting  
is composed of the members of the several  
local organizations, clubs and granges, and  
is always an event looked forward to with  
gratification as affording opportunities for  
acquiring and diffusing information. The  
meeting was formerly held in the afternoon,  
but the topics under review and the interest  
have so increased that an entire day is now  
devoted to it. The attendants on the exer-  
cises bring their lunch-baskets with them,  
which are taken charge of by a number of  
the ladies of the immediate neighborhood,  
who adding fragrant coffee of their own  
brewing, spread their contents in the greatest  
profusion on extemporized tables, in an ad-  
jacent school house, to the gratification of  
all those present, who yesterday, as usual,  
signified their appreciation by a vote of  
thanks.

The chairman, Mr. Henry C. Hollowell,  
opened the proceedings, saying: "This is  
the twelfth of these gatherings, each increas-  
ing in interest over those of the past; and  
this because not only farmers, but all in the  
community are concerned." He alluded to  
Garfield's approval of a quotation in his  
"Journal," from the *Westminster Review*, that  
"the greatest evidences of a nation's civiliza-  
tion are: 1. The state of the roads. 2.



The state of agriculture. 3. The mode of transportation," and referred to Governor Hamilton's dictum that "upon the broad shoulders of labor at last rests the weight of all governments." "Let us," he said, "appreciate this and fit ourselves for our duties and perform them." Among the practical advantages coming from these meetings have been the protection of railroad crossings, and in securing legislation for the protection of the farmer in Washington city.

The committee on procuring a law for the protection of sheep reported that they were unsuccessful in securing any legislation, and were discharged. The committee to secure an act of Congress for a public weigher of hay in Washington was also unsuccessful, but recommend that the farmer, instead of the consumer, pay the agent the commission. Appointment of public weighers being unpopular, it was not thought wise to ask such an appointment now.

The Committee on "Hog Thistle" report they find it can be eradicated by continuously cutting it when in bloom. It is not spreading rapidly. Ensilage was discussed at some length by Messrs. Roberts and Smith, of Virginia; Ager, of Prince George's county, and C. Lyon Rogers, of Baltimore county—all being very largely engaged in preserving corn fodder in this way, and favorable to its use.

A letter was submitted from the committee of Baltimore county farmers, appointed at the farmers' convention of Baltimore county in February, 1893, to join with other farmers' associations in securing a State agricultural experiment station, enclosing a copy of a bill which has been submitted to the Legislature for the establishment of such an institution. A resolution was passed unanimously approving the establishment of such an experiment station.

Reports of the several clubs of the county were read—that of the Farmers' Club of Sandy Spring by Wm. Hy. Farquhar; of the "Enterprise," by Edw. Porter Thomas; of the Montgomery county Club, by Robert H. Miller. The first named club was founded in 1844, and in December held its 46th meeting. The Enterprise was established in 1866, and the third one some years later.

The discussion of several questions of present interest to agriculturists was then taken up. A debate as to the relative value of stone lime at 14, and oyster lime shell at 7 cts per bushel, resulted in drawing out varied experiences, and no definite decision was reached, and experiments were advised.

To the question, "Is our present system of farming the best?" it was decided that each man must answer for himself, according to the circumstances surrounding him. "On a small farm does it pay to keep wood-land for fuel?" A vote of the convention decided that it did not.

"Does it pay a farmer to own a manure-spreader?" From the experience of those present who had tried it and commended its use, the question was decided in the affirmative.

Agricultural papers were decided to give farmers as many advantages as it was right to expect from them, and a number of kind references were made to the value of THE AMERICAN FARMER.

"As a basis for fertilizers, is it more profitable to use bone or South Carolina rock?" Bone was the favorite, but the use of both was recommended.

The question of the appointment of an agent in Washington, D. C., to sell the produce of Montgomery county farmers was postponed to next year, and the convention adjourned, its members well pleased with the day, considered by them as well and profitably spent.

During the reading of the club reports the ladies were, by resolution, invited in and occupied seats on the platform, giving brightness and animation to the meeting.

## AGRICULTURE IN THE SOUTH.

### Commercial Fertilizers, and will they Pay?

BY TH. POLLARD,

[Ex-Commissioner of Agriculture of Virginia.]

We have discussed fertilizers incidentally in discussing the progress of agriculture and the improvement of land. We propose now to discuss them more fully, for it is a subject of great importance to the farmer, and one still open for debate and elucidation, for there are many points doubtful and unsettled concerning them—as the kind to use, those suited to particular crops, when to apply and how much per acre, etc. There is no one who can settle these points satisfactorily and definitely for all differences of circumstances, all differences of climate and soil, and to suit the views of every farmer, but there is nothing like discussion for the evolution of truth and satisfying doubts; and unfortunately of this subject there are many doubts and diversities of opinions, more than there ought to be, for men of preconceived opinions are often hard to convince, even on points frequently conceded by almost every one to be settled. But there are many real difficulties in regard to the use of commercial fertilizers, some of which we shall afterwards mention.

In selecting brands of fertilizers for crops, farmers need be reminded (though no doubt many already know this) that there are three principal ingredients to be looked for, viz: nitrogen, (in the forms, generally, of ammonia and nitric acid,) phosphoric acid, and potash. There are other ingredients found in fertilizers, such as soda, magnesia, etc., but the first three are the really important ones. All soils, it should be understood, do not require all three of them. Some lands containing much vegetable matter, particularly clover and peas, can do very well without the nitrogen, and the same is true of freshly-cleared lands. Other soils, particularly clay soils, and newly-cleared lands do not need potash. But all soils and plants require phosphoric acid in the form of bone, or natural phosphates, which nature has providentially supplied in all parts of the globe. Plants take a good deal of this material from the soil, and unless this important constituent exists in the soil, the bones of all animals, including man, would cease to grow, and animal life itself would cease to exist, and unless nitrogen was thus furnished, plants, flesh, and fat, and blood, could not be formed, and the animal would equally perish. Potash is not so important, and in many soils it may be dispensed with; in some instances it is said soda may be substituted for it. Still it is important for many soils, and particularly where fruit trees and vegetables are grown, and it acts efficiently on all light, worn lands. Lawes and Gilbert say the soils of England scarcely require it artificially, nature having supplied it. On the soils in Virginia, ashes never fail to act well; they contain about 10 per cent. of potash and 5 per cent. phosphoric acid (from oak or hickory wood), and the effect is so marked that it cannot be attributed to the phosphoric acid alone, but must be in a great measure due to the potash. We know that where much of the potash has been leached out by soap or lye-making, or exposure to weather, that the ashes lose much of their fertilizing property, though the phosphoric acid is left. I have seen on my farm, near Richmond, kainit, which contains about 25 per cent. sulphate potash and no phosphoric acid, have a most marked effect on oats and clover. The soil in this case was grayish, with a good clay subsoil, which might be reached with the double plow. Then, we know, "green sand marl," which owes all its virtues to potash, never fails to act well upon all the lands on which I have seen it applied or where I have heard of its application, both on gray and reddish

soils, if applied in sufficient quantity, producing particularly a good growth of clover. I have never seen it applied on the red lands above "tidewater," but remember a farm in Henrico county, below Richmond, gray soil, with red clay subsoil (the surface soil being in some cases washed off, exposing the red clay), greatly improved by the use of "green sand marl" alone. The proprietor considered he was very sure to get a stand of clover after its use. My land mentioned, on which kainit was applied, yet shows its effects, though used more than five years ago, and when in clover, the portion on which it was applied, could be distinguished by its increased growth for more than two hundred yards from my door, a portion adjoining being left without the application. The effect of "green sand marl" on the light lands of New Jersey has been wonderful; and yet there are some who contend that potash may be dispensed with in the use of fertilizers. A writer, in the March number, 1890, of the *Southern Planter*, assumed this position. Another evidence of the great need of some lands for potash is a statement made by Prof. Storer, of Massachusetts. He experimented with a variety of fertilizers on two hundred and eighty plots of land, barley, beans and ruta bagas being the crops raised, and concluded that "in general, the fertilizers that contained the most potash, yielded the best results. The land selected was a thin, light, leachy land, which so frequently overlies the gravelly lifts, and was typical of much of the land of New England." The Professor says that nitrate, carbonate and sulphate potash likewise brought large returns; that his experiments showed the land needed potash, rather than phosphoric acid; that the addition of potash manures evidently enables the crops to make use of a certain store of phosphoric and nitrogen, which the land contains; and that it is clearly shown that the amount of potash must be very small, since the phosphoric acid and nitrogenous manures by themselves, nor mixtures of the two, such as several of the superphosphates are known to be, could enable the crops to get enough potash to prevent their starving after the first year; and under the existing condition of things, no advantage can be gained by applying more phosphatic and nitrogenous manures to the land; that the crying want of this land was for potash and potassic manures to the well-nigh exclusion of all fertilizers until an equilibrium is reached.

These experiments prove that the wants of different soils are very different, as well as the wants of different crops. The farmers will do well to experiment in a small way every year until they find what particular constituents their soils need. A bag each of several different fertilizers might be tried each year. Prof. Johnson, author of "How Crops Grow," and "How Crops Feed," and "Director of the Connecticut Experiment Station," suggests "that it is better to have a long, narrow plot of ten or fifteen square rods area, because the inequalities of the soil are less likely to disturb the results. The land being prepared for a crop, a number of measured plots or strips are laid off, and differing and different fertilizing matters are applied to them in appropriate quantities. On one, for example, use gypsum; on another, fresh slacked lime; on another, superphosphate made from bone ash, or bone black, or crushed bone, (or South Carolina phosphate); on another, pulverized blood and meat scrap, rich in nitrogen, but nearly free from potash; on another, sulphate ammonia; on a sixth, muriate of potash; on another, a nitrogenous phosphate, or a fish guano; on an eighth, stable manure, etc. Two or three plots with no manure should intervene, to make a basis of comparison. The experiments should extend over a series of three or four years, the same plots each year being treated with the same kinds and

quantities of fertilizers, but cultivate with different crops." We would suggest that it would be best to test the different commercial fertilizers—thus, one with little phosphoric acid and a good per cent. of potash; another with a good per cent. of phosphoric acid and no potash, and another with ammonia and another without ammonia, but having other ingredients. Thus it will be found which of the three ingredients, phosphoric acid, potash or ammonia, act best on the particular soil experimented on. But a single experiment will not be sufficient, as the seasons and other circumstances vary, and it is proper to extend them through several seasons, and on different crops and in some experiments, it would be well to try a single constituent at a time without any combination with it. It is well also for every farmer to test carefully on his land gypsum and lime, for there are many soils, particularly in eastern Virginia and Maryland, on which gypsum does no good, and we are told by some farmers that lime has no appreciable effect on their land. We remember this statement having been made us by one of the best and most observant farmers in the upper James River Valley. Many farmers use these substances, taking it for granted that they act well, without leaving out strips of land to see if any difference results. We remember a farmer who used gypsum on all his clover for some years. I advised him to leave out a strip one year without the gypsum; he did so, and saw no difference on either portion of the clover. I have tried it fairly for several years with different kinds of gypsum on my land, a chocolate soil, without the least beneficial effect—the trial being on clover, on corn and on strawberry vines, on which I had seen it stated that it produced a wonderful effect.

## The Grange.

### Change Proposed in the Grange.

Messrs. Editors American Farmer:

In a paper of mine published in the November, 1892, No. of the AMERICAN FARMER, I took occasion to call the attention of farmers to the urgent necessity for some co-operative organization, of a national character, for the protection of their class against the impositions and extortions of other classes, as well as for the promotion of the material and moral interests of the great agricultural masses. In doing this I made some incidental allusions to the Grange, and pointed out some defects in its organization, wherein it failed to meet the necessities of the situation.

A few months ago there appeared in THE AMERICAN FARMER a criticism upon my paper, in which the writer in a very fair, courteous, and able manner, defended the Grange, and contended that it is fully equal to the exigencies of the case. It is in no spirit of controversy or fault finding that I venture upon the subject again, but entirely in the interest of the great cause that we all have at heart.

As it is not likely that any organization, other than the Grange, can be gotten up at this time, and as it wise always to do the best that we can, and take the best that can be had, it seems best to take up the Grange and so amend and modify its organization as to render it more popular and effective. And why may this not be done? All human institutions are more or less defective, and time and experience are sure to develop defects sooner or later. The Grange, however plausible in theory, and however hopeful of good results it may have been in its incipency, furnishes no exception to the rule; and it must be acknowledged by its most devoted friends, that it has failed to accomplish those grand results hoped for by its founders. Its failure has resulted mainly from its want of numerical strength. I do not mean to say it has failed in all its purposes, or that it has



accomplished no good. What I mean is that it has failed to accomplish the main, or what should have been the main, grand, purpose of the organization, to unite and organize the agricultural masses in defence of their political and business interests.

Several features in the organization are unpopular with the masses, the most objectionable of which is its secret meetings. A large proportion of those engaged in agricultural pursuits are averse to secret organizations, and will not go into the Grange on that account. They very rightly contend, as it seems to me, that all actions affecting the public interests, and of a public character, should be open to the public, and they distrust all organizations that deal with public matters in secret conclave. Your correspondent attempts to justify this feature in the Grange by adducing the example of other secret organizations now in successful operation. It is true that these organizations are tolerated and encouraged, but they are of a different character. They partake more of a social and moral character, and have no direct bearing upon the public interest. But it is contended that this secrecy and its appendages, the pass words, signs, signals and ritual, throw a mystery around it, and that these are necessary to give employment to the Grange and bring in the curious. With all deference I must say that the employment of such means as these for those purposes is of very doubtful propriety. Impulse and the gratification of an idle curiosity are poor incentives to human action, and all actions impelled by such influences are uncertain, transient, and unreliable. It was this influence that filled the Grange rooms so rapidly in the start, and afterwards so quickly emptied them.

The only true and solid foundation to build upon is that of principle and sense of duty, and none will prove permanent and efficient that have not this foundation.

What the Grange most needs is numerical strength. To be effective and successful in its grand purpose it must unite, harmonize and concentrate the great agricultural forces. Their principles and teachings may be ever so good, but without the strength of numbers to enforce them at the ballot box, they are but as "sounding brass and a tinkling cymbal." In order to obtain this needed strength, the Grange authorities must amend, modify and popularize their order, so as to bring up the reserve force, and enlist the masses.

As at present organized, and with its present strength, the Grange is inadequate to accomplish its great purpose, and it is scarcely producing a ripple of effect upon the broad ocean of political policy.

Governmental policy is worked too much in the interest of monopolies and certain favored classes, and too little in the interest of the agricultural classes, and hence the necessity of organization on their part. The reason of this is, these favored classes are active participants in the government, and thus give shape to its policy, whilst the agricultural classes, although the strongest in numbers and the most important in virtue, remain unorganized and undisciplined, passive and unresisting.

The great trouble is in arousing the farming classes, and in moving them to take action in these matters. They need a stronger infusion of public spirit, a deeper interest in the common good, and a better realization of the duties and obligations of good citizenship. By reason of the isolation of the farmer's life, he is made to feel more or less independent and self-reliant, and he does not feel the necessity of co-operating with his fellows as others do. This kind of isolation tends also to render him in some measure selfish and contracted in his views and opinions. In his struggle for existence in the world, he depends mostly upon the soil, the season, and his own strong arm. It

has the further effect of making him too complacent—too well satisfied with his own knowledge, and too little appreciative of the attainments and experience of others. He shuts his eyes against the light, and excuses himself by the plea that he already knows more than he practices.

There is another most potent reason why the agricultural masses should be organized and assume their due participation in governmental affairs. The agricultural classes, the country people if you please, constitute the great conservative element of the nation. They are the "conservators of the peace," "the salt of the earth." It is upon this reserve force that the hope of the patriot must rest for the preservation of our liberties and our free popular institutions. It is upon this conservative element that we have to rely to resist and counteract the centralizing tendencies of the government, as well as the corrupting influences of monopolies and the great moneyed power.

The first duty of the Grange so reorganized, is to build up a public spirit among the masses; to infuse new energy and enterprise into them, and cause them to realize the necessity of cooperation, as well as the benefit to be derived from it; and above all to get them to act from motives of patriotism and principle and a sense of duty, and not from impulse and curiosity. Let the Grange take a new departure! Let it make reasonable concessions to the popular will and public opinion! Let it adopt an enlarged and liberal policy! Let it make no war upon other classes! Then will it be able to go forward on its grand mission of usefulness, progress, and improvement. Its course will be onward and forward, and there will be no retrogression.

In conclusion I must in candor add, that the contemplated change is no easy one. For reasons already alluded to, the great task of blinding the masses into an efficient organization is a most difficult one, and it can only be accomplished by firm and persevering action.

WM. HOLMAN.

Cumberland Co., Va.

## Home Department.

### A Chapter from "Kitchen Philosophy"—Cooking Stoves.

We may live without cooking stoves, but who does? In every house in the land the cooking stove has completely replaced the kitchen hearth and clay oven for cooking and baking purposes, and by comparison with these it is one of the greatest of boons to the modern housewife.

As to variety in this "modern improvement," its name is legion—as the archives of the U. S. Patent Office will show; and it would puzzle the wife of a "Philadelphia lawyer" in most cases to understand the shades of advantage one has over another; yet probably they are all making some advance toward greater perfection, and if in the march toward that desirable end, some genius finds a wrinkle upon which he can hang his hopes for a pecuniary harvest, and forethought gets out a patent, who will grudge it to him? In order, however, to put these improvements to practical use, ladies will have to do their own cooking, as the average cook will never learn now. For the purposes of the great army of ordinary cooks, the chief advantage of the cooking stove over the by-gone fireplace lies in the saving of back, and exemption from scorched faces. To the most casual observer it must be clear that we do not see nearly as many stooping, elderly people among the working women as we used to, nor are their complexions as leathery as they used to be, and there can be little doubt that this is due to the cooking stove or range.

To lift the pot and kettle from the hearth and bring the fire in a safe chamber underneath them, was no doubt a long stride in the

right direction. At first the floor of the fire chamber was about two feet below the resting place of the cooking vessels, and these being made altogether of iron, and pretty thick iron at that, it was necessary to let them down into holes provided for the purpose in order to obtain sufficient heat for cooking purposes, and, of course, all that part of the vessel which was below the plate of the stove became blackened with smoke, as it still continues to be whenever this method of hurrying up things is resorted to. How the hard-worked and yet proverbially tidy housekeepers of those days reconciled themselves to this feature of the cooking stove, I do not understand; the bed of coals upon the hearth was free from this, however, much smoke found its way to the level of the cook's eyes; probably they preferred to have the smoke where they could remove it, but there is not any reason for this blackening of the cooking vessels of to-day.

All the improvements in cooking stoves since then have helped to raise the bed of the fire as near the top of the chamber as possible, so that the top of the stove is ordinarily as hot as any bed of coals, and yet the top is still provided with holes as if it were necessary to let any vessel down into the blaze and smoke under these circumstances. Where we have relics of former dinner pots, frying pans and tea kettles, it may be necessary upon rare occasions to hasten the desired results in that manner, but with any of the modern cooking vessels, such a proceeding is as unnecessary as it is unwise; it destroys the vessel and also the food. Of course this is not always immediately apparent, but most of us have grieved over the untimely destruction of porcelain-lined, block tin, or marbled-ware vessels, so nicely adapted to nice and cleanly cookery, without being able to discover when and by whom it had been done, and we are also at a loss to discover the cause of some foreign flavor in the food we eat; the cause of all is the propensity most cooks have to hasten the operation of cooking by lowering the vessel into the fire without sense to know that it cannot be hastened beyond a certain point, or that a kettle boils unless it boils over. I doubt even whether any time is gained in plunging it down closely on the fire, but we may spend our lives in the vain effort to teach successive cooks to reason about these things. There is, however, one outgrowth of this uncleanly custom that would in time impress itself if one only had patience to demonstrate it to them; it is the extra labor the blackening of the bottoms of the cooking vessels causes, and in the cleansing of the bottoms of the vessels only, but everything they come in contact with is soiled by them. The frequent handling of them reveals itself in the pan, cloths, sinks, tables, cook's hands, and aprons, each of which requires considerable work to restore its original cleanliness, to say nothing of the disagreeableness of such work. Unquestionably it is due to this that so many people dislike to do kitchen work.

All of this could be so easily obviated by having no openings in the top of the stove, and I think it quite time that the primitive arrangement should be abandoned and all our cooking vessels adapted to use entirely upon the top of the stove. I have tested the feasibility of this fully, having been forced by the interregnum of departing and coming cooks to superintend the cooking without interference or pretext. I have not allowed a vessel to be set down in the hole for two weeks with telling effect upon everything in and about the kitchen and to the great improvement of the cookeries.

When we conform entirely to this method and use such vessels as it allows of, we may resort to Prof. Blot's test of perfect cleanliness in our cooking, which is to wipe the vessels with a damask napkin to ascertain whether a speck remains to soil it. I trust ingenuity will somewhere take this matter in hand and produce a stove that will thwart the ignorant or stubborn cook and help to make the kitchen a more agreeable place when we are to do duty ourselves. CERE.

## Seasonable Recipes.

**GROUND RICE SPONGE CAKE.**—Half a pound of ground rice, half a pound of crystallized sugar, and four large fresh eggs. Beat the eggs five minutes, add the sugar, and when well mixed add the rice, and beat the mixture till it becomes a stiff dough. Butter a cake tin; put in the mixture and bake in a moderately heated oven for an hour. May be hot or cold.

**COCOANUT ROCK.**—Grate a fresh cocoanut. Be careful not to put any of the outside with it. Take the same weight of loaf sugar, finely pounded, and mix them well together. Then add whites of eggs, beaten to a stiff froth, sufficient to mould the nut and sugar into a firm paste. Rub a bright tin (a small Yorkshire pudding tin will do) slightly with fresh butter; cover it over with cap paper, with holes pricked in it to let out the steam, and bake in a slow oven till firm—about half an hour, if not more than an inch thick. Cut it into squares, and when cold keep it in a tin. Pounded almonds may be used if preferred.

**SCOLLOPED OYSTERS.**—Three dozens will make three scollops, or one small dish. Take off the beard, boil the liquor with a blade of mace and a small piece of thin lemon peel and strain it over the oysters; let them stand till cold. Take the oysters and season them with half a grain of cayenne and half a salt spoonful of white pepper; rub a thick slice of bread, one day old, in a clean cloth till it is in very fine crumbs; mix with them the eighth part of a nutmeg grated and half a salt spoonful of salt; lay the crumbs and oysters in layers, (either in three scollop shells or a small tin dish) finishing with crumbs. Put half an ounce of butter in the centre of each shell, and half an ounce more on top. Pour over each shell two dessert spoonfuls of the liquor, put them into a very quick oven or before a good fire and bake to a pale brown color for about fifteen minutes. Serve Numsen's sauce or mixed pickle. J. B. BRISTON.

## Hospitality.

I pray you, oh! excellent wife, cumber not yourself and me to get a curiously rich dinner for this man and woman that have alighted at our gate; or bed-chamber made ready at too great a cost; these things, if they are curious in them, they can get for a few shillings in any village; but rather let this stranger see, if he will, in your looks, accents and behavior, your heart and earnestness, your thought and will, what he cannot buy at any price in any city, what he may well travel twenty miles, and dine sparingly, and sleep hardly, to behold. Let not the emphasis of hospitality be in bed and board; but let truth, and love, and honor, and courtesy, flow in all thy deeds.—Emerson.

To clean and restore the elasticity of cane-chair bottoms, turn the chair bottom upward, and with hot water and a sponge wash the cane-work well, so that it is well soaked; should it be dirty, use soap; let it dry in the air, and it will be as tight and firm as new, provided none of the canes are broken.

**A torpid liver, stomach out of order, digestive apparatus weak, and the brain in consequence of these disorders, over sensitive, to exertion or to any unusual circumstance, and the formula for a "crank" is complete. Ayer's Pills will rouse up the liver, regulate the functions of the stomach and bowels, the tired brain will be relieved, and the head resume its wonted level.**

**Now is the time to take Laroque's Anti-Bilious Bitters for chills and fevers, headache, dyspepsia, costiveness, &c.; its effect upon the system is truly wonderful. 25 cents a paper; \$1 a bottle. Sold by druggists. W. E. Thornton, proprietor, Baltimore, Md.**

**Neglected colds often become incurable ailments. Deal with them in time, and prevent their becoming deep seated in the system, by using Ayer's Cherry Pectoral. Forty years experience, in every climate on earth, has proved this to be the most reliable remedy for colds, coughs, and all lung diseases.**



# Baltimore Markets—Jan. 16.

**Flour.**—Local business is restricted by the inclement weather, and the market is quiet but nominally steady in the absence of any pressure on the part of holders, though there is an ample offering at current prices. We quote: Howard Street and Western Super, \$2.75@3.25; do. Extra, \$3.50@4.05; do. family, \$4.00@5.75; City Mills Super, \$3.75@4.50; do. Extra, \$3.75@4.05; do. (Rio Brands) Extra, \$3.75@5.00; Baltimore Winter Wheat Patent, \$7; do. High-grade Family, \$6.50; do. Second-grade Extra, \$6.25; do. Third-grade Extra, \$6; Fine, \$3.75@3; Rye Flour, \$3.75@4; Corn Meal 100 lbs. \$1.50; Colbert's Excelsior Graham, \$7.

**Wheat.**—Good grades of Southern Wheat are in demand and the market is steady but quiet, with the offerings confined to a few small lots. Longberry sold at \$1.13 at car and \$1.13 1/2@1.13 delivered; Mixed at \$1.10 delivered; and Faints at \$1.05 on track. The market for Western Wheat ruled moderately active and higher, closing steady at a slight reaction from the best figures. The closing quotations were: Spot, \$1.05 1/2@1.05 3/4; January, \$1.05@1.05 1/2; February, \$1.05 1/2@1.05 3/4; March, 1.07 1/2@1.07 3/4; May, \$1.11 1/2@1.11 3/4.

**Corn.**—Only small lots of Southern Corn are arriving, and the market is very quiet but nominally steady. White sold at 54 cts. for damaged, 50 cts. for rejected and 60 cts. for good to prime. Yellow brought 64 cts. for prime. Nothing is doing in Western Corn, and the market is dull and nominally steady. The closing quotations were 60 cts. for spot, 61 cts. for January, 60 1/2 cts. for February.

**Oats.**—The offering is moderate and the market is quiet and firm. We quote Maryland and Pennsylvania at 41 1/2 cts.; mixed Western at 43 1/2 cts.; White do. at 44 1/2 cts.

**Rye.**—The demand is mostly for job lots and the market is quiet and rather easy in tone, though the offering is moderate. We quote good Pennsylvania at 73 cts. and Maryland at 74 cts.

**Hay and Straw.**—The market for Hay is quiet under a liberal supply and very little demand except for best grades. We quote as follows: Cecil county Timothy, \$15@17; Maryland and Pennsylvania Timothy, 18@15; do. mixed, \$8@11; do. Clover, \$8@10; Western, \$10@15 1/2 ton for common to choice. Straw is quiet and steady at \$7@8 for West, \$10 for East, \$12 for long Rye and \$8@9 for short do.

**Mill Feed.**—There is only a moderate offering and the market is firm under a fair demand at 16 1/2 cts. for Western, and 18@21 for City Mills as to weight.

**Cotton.**—There is no disposition on the part of holders to allow concessions and the market is called firm but quiet under a moderate inquiry. Spots were quiet and steady in New York at 10 1/2-16 cts., and futures closed steady but dull. We quote as follows: Middling at 10 1/2@10 3/4 cts., Low Middling at 10@10 1/2 cts., and Good Ordinary at 9 1/2 cts.

**Provisions.**—The jobbing trade is moderate and the market is quiet and about steady at current prices. Packed lots from store are quoted as follows: Bulk shoulders, 7 cts.; Clear-rib Sides, 8 1/2 cts.; Bacon Shoulders, 7 1/2 cts.; C.B. Sides, 9 1/2 cts.; Ham, sugar-cured, 13 1/2@14 1/2 cts.; Refined Lard, in tierces, 10 cts. Alsea Fork, new heavy, \$15 25 per bbl.

**Dressed Hogs.**—The market is quiet and easy, with moderate demand and ample offering at \$1.50@1 1/2 per 100 lbs., the latter for choice light-weights.

**Butter.**—There is a much better inquiry for choice table grades and the market is firmer. Medium and low grades are dull and nominal. We quote Choice New York State at 26@30 cts.; fresh Western packed choice at 29@31; do. good to prime, at 16@18; Western rolls at 16@18; and near-by receipts at 24 cts. V.B.

**Cheese.**—A fair demand is reported for the season and the market is firm. New York State is quoted at 13 1/2@14 cts. V.B. for fancy and 13@13 1/2 cts. for good to prime; Western, 12 1/2@13 1/2 cts. for choice, 11 1/2@12 cts. for good to prime, and 10@11 cts. for fair to good; skims 8@9 cts. for choice.

**Eggs.**—The supply continues moderate and the market is steady, with constant demand at 32@33 cts. per dozen for fresh and 24@25 cts. for pickled.

**Tobacco.**—The receipts of Maryland are again very light, and there is nothing offering to attract buyers. The feeling is firm, and it is generally believed that the season will open at full prices. The quality of last year's crop is said to be superior to that of several years past. The demand for Ohio is moderate, but factors are uneasy about their small stocks on hand. We quote Maryland inferior for smoked, \$23; do. sound common, \$35@36; good common \$35@36 1/2; do. Midding, \$27@28 1/2; do. good fine red, \$35@36 1/2; do. fancy, \$12@14; upper country, \$8@15; do. ground leaves, \$3@8; Ohio, inferior to good Common, \$4@4 1/2; greenish and brown, \$3@7 1/2; do. medium to fine, \$7@10; common to medium spangled, \$7@10; do. fine spangled and yellow, 11@16; do. sir-cured medium to fine \$5@14.

**Live Stock.**—Beef Cattle.—Trade was moderately active, good Cattle being very well represented in the offerings, while there were not near as many of the common ones. Prices of the better grades were 13 to 20 cts. higher than on last Monday, others show no appreciable change. Prices ranged as follows: Best \$6.37 1/2@6.57 1/2; that generally rated first quality \$5.50@5.71 1/2; medium or good fair quality, \$4.50@5.25; ordinary twin Steers, Oxen and Cows, \$3.00@4.00. Extreme range of prices \$3.00@6.87 1/2. Most of the sales were from \$4.50@5 per 100 lbs.

# Milk Cows.—Prices range at \$40@45 per head,

wholesale, and trade only fair.

**Pigs.**—The market is quite fair, dealers reporting a moderate to good demand at the prices ruling. We quote common rough Hogs at 7 1/2 cts., better grades 7 1/2@8 1/2 cts., and extra 8 1/2 cts. per lb. net.

**Sheep and Lambs.**—There is no outside demand, the purchases being confined to city butchers. Good Sheep in fairly good demand, with common hard to sell. We quote at 2 1/2 cts. per lb. Lambs at 4 1/2 cts. per lb.

# NEW YORK TRIBUNE

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**Head Burnished.**—Even among standard goods of reputable manufacturers there is an important difference in the finish. In many cases the polishing is done by a rapid machine-buffing process, while every piece bearing Messrs. Holmes, Booth & Hayden's name is thoroughly burnished by hand. Hence it will be observed that our Table Ware Presents are composed of the best white metal, covered with the thickest plating of Pure Silver, which is finished by the best process of Hand Burnishing. They are also artistic in pattern, exquisitely engraved, and cannot be distinguished from Solid Silver. With careful usage the triple plate will last a lifetime. All Spoons and Forks and all Knives (except the Solid Steel Plated Knives described below) are made in pattern and style of finish. The Knife, Fork and Spoon shown above constitute our Child's Set—a very appropriate Birthday or Holiday Present.

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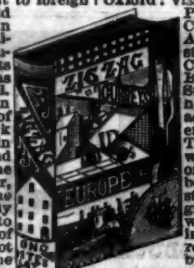


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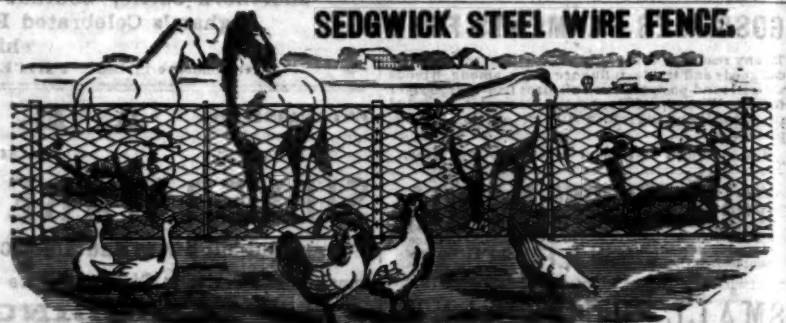
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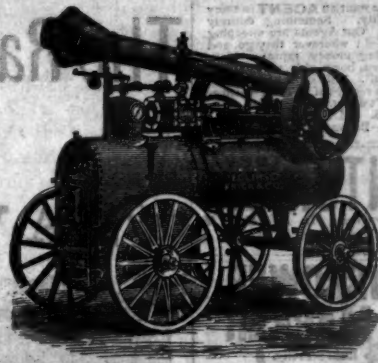
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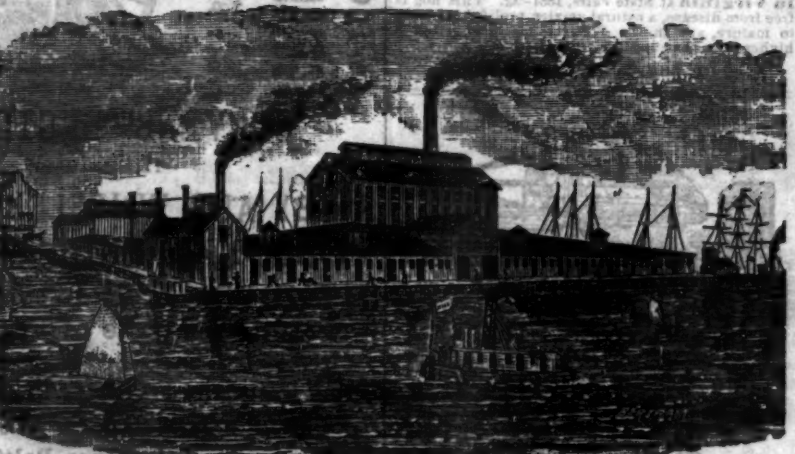
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